State of Wyoming

Department of Health

Annual Report on Cancer in Wyoming - 2014

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Director

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Executive Summary

The incidence of and mortality rates from cancer in Wyoming residents continues to be lower than the U. S. average. The overall incidence rate for cancer in Wyoming was 389.5/100,000 in 2014, which is up from 2013 (373.1/100,000), but still lower than the national rate of 438.5/100,000. The overall mortality rate for all cancers in 2014 (139.8/100,000) was lower than 2013 (145.2/100,000) and the national rate of 163.4/100,000.

The top five cancer sites for incidence in 2014 were: female breast, prostate, lung/bronchus, colorectal and melanoma. The most common cancers for incidence by age group were eye (0-4 years); thyroid (25-29); breast (35-59 years); prostate (60-69 years); breast (70-74 years): and lung (75-85+ years). There were five cases of melanoma in individuals under 30 years of age in 2014. Additionally, for only the second time since 1980, more women than men were diagnosed with lung cancer in Wyoming.

The top five cancer sites for mortality were lung, colorectal, ill-defined, cancer of the pancreas, and breast. The most common cancers associated with mortality by age group were colorectal (40-44 years); brain/CNS (45-49 years); and lung cancer (50-85+ years). There were fewer than two deaths per cancer site for all age groups from 0 to 39 years. This year (2014) marked the first time that more women died than men from lung cancer in Wyoming.

The 5-year (60 months) relative survival rate for Wyoming cancer patients diagnoses between 2007– 2014 is 66.9%. This means that almost sixty-seven percent of all cancer patients in Wyoming were alive five years after diagnosis during this time period. Prostate cancer (98.3%), cancer of the thyroid (96.4%), melanoma (93.2%), and female breast cancer (89.1%) continue to have the highest survival rates among Wyoming residents. The survival rates for cancer of the pancreas (8.1%) and lung cancer (15.3%) are the lowest among Wyoming residents. Children/adolescents (00-19 years) continue to have an excellent 5-year overall survival rate of 83.1% between 2007 and 2014.

INTRODUCTION

Cancer

Cancer is a group of diseases characterized by uncontrolled growth and spread of abnormal cells. If the spread of abnormal cells is not controlled, death can result. Many cancers are preventable and many can be cured if detected and treated early.

Causes of Cancer

Cancer is caused by both environmental and internal factors. Environmental causes include exposures to chemicals, radiation, or viruses, as well as exposures associated with lifestyles (e.g., smoking, diet, and alcohol consumption). Internal causes include hormone levels, immune status, and inherited conditions. Causal factors may act together or in sequence to start or promote cancer. Ten or more years often pass between carcinogenic exposures and detectable cancer.

Prevention

Avoiding potential exposures such as tobacco use, severe sun exposure, and excessive dietary fat may prevent the onset or promotion of cancer. Also, increasing beneficial practices such as eating five servings of fruit or vegetables every day may help to prevent cancer. Early detection and treatment of cancer through established screening practices such as mammography, prostate specific antigen (PSA), and colorectal screening improves the survival rates and decreases mortality.

Wyoming Cancer Surveillance Program

Cancer is a reportable disease in Wyoming. State statute requires that physicians, hospitals, and laboratories report all cases of cancer they diagnose or treat in Wyoming to the Cancer Surveillance Program (WCSP), which serves as the state's central cancer registry. The purpose of the registry is to gather data to determine cancer incidence, mortality, treatment, and survival in Wyoming. Through special interstate agreements, information on Wyoming residents diagnosed or treated in other states is included in the program's database.

Insuring accurate data is one of the most important roles of the cancer registry. The WCSP established procedures for both automated and manual methods of checking the quality of data. The data is stored in the Rocky Mountain Cancer Data Systems software which has a built-in system to immediately check data when a new case is entered into the database. Each case submitted is reviewed for accuracy and completeness in compliance with data collection standards from the National Program of Cancer Registries and the American College of Surgeons.

The data are used by a variety of health professionals and others concerned about cancer. Within the Wyoming Department of Health (WDH), the data are used to monitor early detection, to determine year-to-year trends that develop, and to determine how Wyoming compares to the rest of the nation. The WDH uses the data to plan and evaluate the effectiveness of its cancer control programs such as the Breast and Cervical Cancer Early Detection Program, and the Wyoming Colorectal Cancer Screening Program. Outside of the WDH, the data are used by physicians, hospital administrators, legislators, non-profit organizations, and the general public. Anyone with a concern about cancer or who would like more information about cancer in a community should call the Wyoming Cancer Surveillance Program's Epidemiologist at 307-777-8654. Written correspondence should be addressed to 6101 Yellowstone Rd., Suite 510, Cheyenne, WY 82002. Information is also available at: https://health.wyo.gov/publichealth/chronic-disease-and-maternal-child-health-epidemiology-unit/cancer-surveillance/

METHODOLOGY and DEFINITIONS

Data Sources

Incidence

Definition -- Incidence is defined as the number of *new* cases diagnosed during a set time period in a defined population. Incidence is not a representation of risk. The defined time period for this report is 2014 except for the 12-year incidence trend, which used 3-year averages (e.g., 01-03 for 2002 or 05-07 for 2006). The defined population is the state of Wyoming, Counties, and Cancer Health Districts (CHD) (see page 13).

Wyoming Data -- The Wyoming Cancer Surveillance Program (WCSP) gathers data on Wyoming residents diagnosed and treated for invasive and in situ tumors. The data is sent to the program's registry by every hospital in the state. Data are also collected from pathology laboratories, clinics, and physician offices throughout the state. The registry has several data exchange agreements with other state registries to enable collection of data on Wyoming residents diagnosed and/or treated outside of Wyoming. Wyoming data for this report includes 2014 cancer cases of Wyoming residents received by WCSP as of June 1, 2016.

National Data -- The National Cancer Institute (NCI) updates cancer statistics annually in a publication called the SEER Cancer Review, also available on SEER STAT, an interactive CD-ROM. NCI monitors cancer statistics to assess progress and to identify population subgroups and geographic areas where cancer control efforts need to be concentrated. Cancer incidence rates are calculated using SEER (Surveillance, Epidemiology, and End Results) software. WCSP used SEER*STAT for this report. **The national SEER rates presented in this report were calculated using 2013 data for whites.** See Appendix A for reference source.

Mortality

Definition -- Mortality is defined as the number of persons who have died during a set time period in a defined population. The time period for this report is the calendar year 2013 for Wyoming rates. The defined population is the state of Wyoming, counties, and Cancer Health Districts (see page 13).

Wyoming Data -- Mortality data are derived from death certificates filed with Wyoming Vital Records Services. By state statute, the certification of the cause of death on the death certificate is completed by the attending physician or by the coroner with the assistance of a physician. Although a number of medical conditions may be listed on the certificate, statistics presented here are based solely on the underlying cause of death. This is defined as the disease or injury that initiated the sequence of events leading directly to death or as the circumstances of the accident or violence that produced the fatal injury. The primary underlying cause is selected and classified based upon the regulations of the World Health Organization.

National Data -- The National Center for Health Statistics (NCHS), a division of the U.S. Centers for Disease Control and Prevention (CDC), provides statistical information including the number of cancer deaths in the United States. United States cancer mortality data is available from SEER STAT, an interactive CD-ROM. WCSP used SEER STAT for this report. **The national SEER rates presented in this report were calculated using 2013 data for whites.** See Appendix A for reference source.

Population

Wyoming Data -- Population estimates for Wyoming state and counties were obtained from the Wyoming Department of Administration and Information - Economic Analysis Division. Population data for 2014 by sex, age, race, and Hispanic origin. Because cancer rates are calculated by dividing the number of cancer cases by a census-generated denominator, rates can be heavily influenced by changes or uncertainties in census counts.

Rates

Age-Adjusted Incidence Rates

Incidence rates include 2014 invasive cases of Wyoming residents, except for bladder cancer which also includes in situ cases. Incidence rates presented are calculated for total cases and separately for males and females. The incidence rates are age-adjusted to the 2000 U.S. standard population using 5-year age groups, and are per 100,000 population. Age-adjustment allows rates to be compared over different time frames and allows rates from one geographic area to be compared with rates from another geographic area that may have differences in age distributions. Any observed differences in age-adjusted incidence rates are not due to differing age structures.

In conformity with the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) Program guidelines, the incidence rates excluded the following:

- in situ cases
- basal and squamous cell skin cancer
- cases with unknown age
- cases with unknown gender

Age-Adjusted Mortality Rates

Mortality rates presented are calculated for total cases and separately for males and females. The mortality rates are age-adjusted to the 2000 U.S. standard population using 5-year age groups and are per 100,000 population. Age-adjustment allows rates to be compared over different time frames and allows rates from one geographic area to be compared with rates from another geographic area that may have differences in age distributions. Any observed differences in age-adjusted incidence rates are not due to differing age structures.

Age-Specific Incidence Rates

An age-specific rate is the rate of cancer found within a certain age group. Age-specific incidence rates were calculated using 5-year age groups and total population (both genders combined). They are reported per 100,000 population.

Statistical Significance

Z-Statistic

A Z-statistic is used to compare two different rates. This is defined as "the difference between two population proportions." Statistical significance was found if the calculated Z-statistic was found to be greater than 1.65. This provides the equivalence of a 95% confidence interval (see below) and is indicated in the report as "statistically significant" or "significant." The formula used can be found in most statistics books or by calling the WDH Chronic Disease Epidemiologist at (307) 777-8654.

Confidence Intervals

A confidence interval indicates the confidence level in the accuracy of a cancer rate. For example, if you calculate a cancer rate for a particular year as 130 cases per 100,000 people, with a confidence interval of 120 to 140 cases per 100,000, this means that you are 95% sure that the rate of cancer for that particular year lies somewhere between 120 to 140 cases per 100,000 people. The rate of 130 cases may in fact be correct, but you have more confidence that the "true" rate lies between 120 to 140 cases.

Confidence intervals are also used as a way to test statistical significance. If the confidence intervals of two different rates overlap one another, then there is no difference between the two rates. However, if the confidence intervals do not overlap one another, there is statistical significance. This is indicated in the report by the terms "statistically significant" or "significant."

Staging

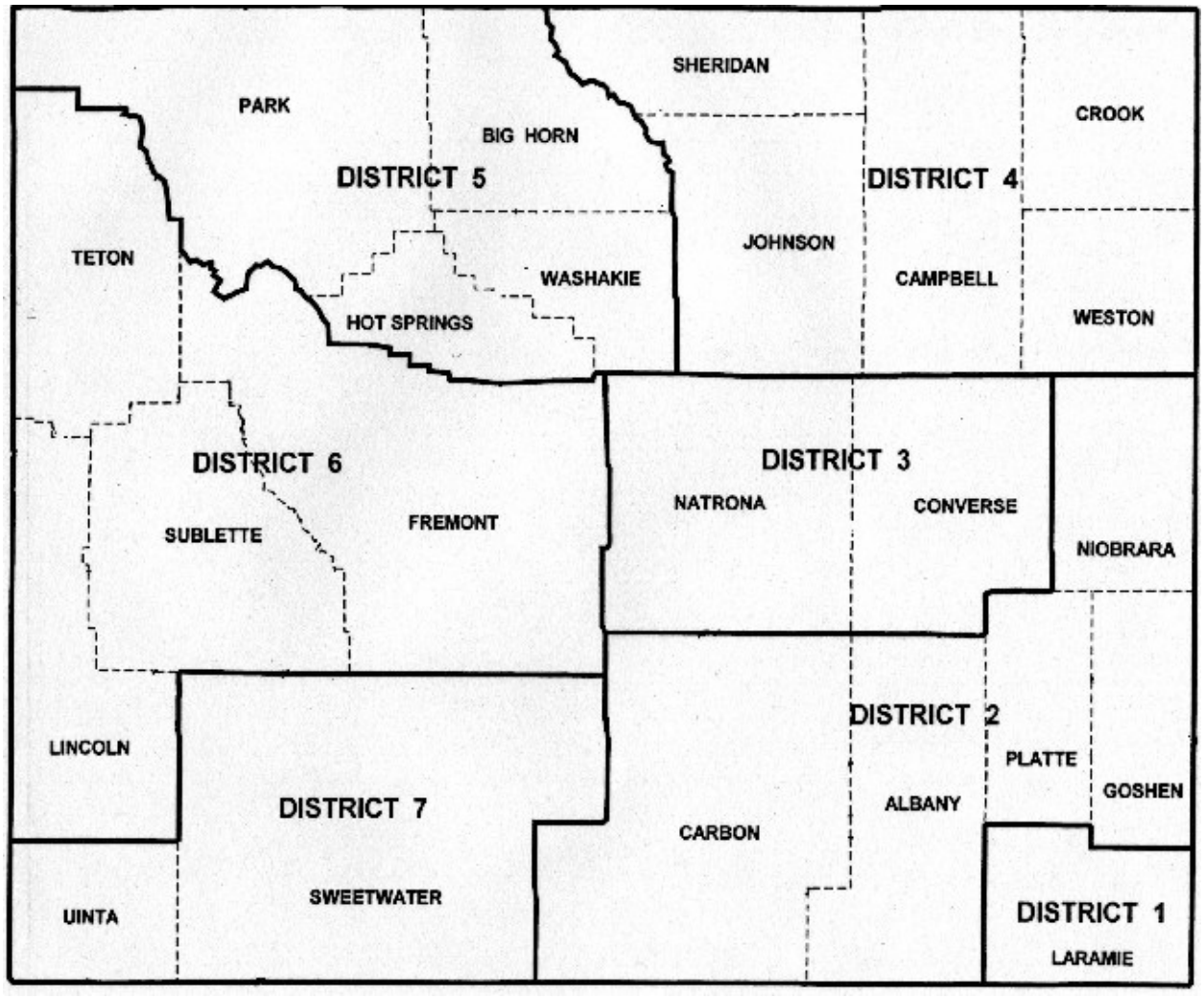
In Situ	cancer has not invaded the organ.
Local Stage	cancer has invaded the organ of origin.
Regional Stage	cancer has invaded beyond the organ of origin by direct extension to adjacent organs/tissues and/or regional lymph nodes.
Distant Stage	direct extension beyond adjacent organs or tissues or metastases to distant site(s) or distant lymph nodes.
Unstaged	extent of disease or primary site cannot be determined.

Note: Starting in 2004, the WCSP and other cancer registries belonging to the National Data Standard setters adopted and began using the Collaborative Staging Method for staging cancer cases. This method utilizes a new type of algorithm that provides more information concerning the size and extent of the cancer, as well as the number of nodes involved.

Cancer Health District

Cancer Health Districts (CHDs) were chosen based on geographic location, similarities in geography and by population size. Also taken into consideration were areas of the state that are routinely grouped for data requests and/or cancer cluster studies. This created seven CHDs that were similar in population size thereby eliminating some of the discrepancies in rate calculations that are caused from population size differences. CHDs are used when county data is too sparse to calculate accurate rates.

CHD 1 Laramie County
CHD 2 Albany County, Carbon County, Goshen County, Niobrara County, Platte County
CHD 3 Converse County, Natrona County
CHD 4 Campbell County, Crook County, Johnson County, Sheridan County, Weston County
CHD 5 Big Horn County, Hot Springs County, Park County, Washakie County
CHD 6 Fremont County, Lincoln County, Sublette County, Teton County
CHD 7 Sweetwater County, Uinta County



State of Wyoming - 2014

Cancer Incidence and Mortality by Gender and Age (All Sites)
Cancer Incidence and Mortality by Race and Ethnicity (Top 15 Sites)

Wyoming Incidence[1] for 2014: Cases by Gender and Age (All Sites)

	Male	Female	Total	00-04	05-09	10-14	15-19	20-24	25-29	30-34
Anus	4	3	7	0	0	0	0	0	0	0
Bladder w/ in situ	117	23	140	0	0	0	0	0	0	2
Bones and Joints	3	0	3	0	0	1	0	0	0	0
Brain	24	18	42	2	0	1	0	0	1	4
Breast	6	406	412	0	0	0	0	0	1	1
Cervix	0	17	17	0	0	0	0	0	0	2
Colorectal	101	92	193	0	0	0	0	0	1	4
Esophagus	29	5	34	0	0	0	0	0	0	0
Eye	6	4	10	3	0	0	0	0	0	0
Gallbladder	1	3	4	0	0	0	0	0	0	1
Hodgkin	6	4	10	0	0	0	1	1	0	0
Ill-Defined	46	42	88	0	1	0	0	0	0	0
Kidney	56	29	85	1	1	0	0	0	2	1
Larynx	13	4	17	0	0	0	0	0	0	0
Leukemia	41	21	62	0	1	0	0	1	2	2
Liver	23	10	33	0	0	0	0	0	0	0
Lung	143	151	294	0	0	0	0	0	0	1
Melanoma	103	60	163	0	0	0	1	1	3	3
Myeloma	14	11	25	0	0	0	0	0	0	0
Nasal	1	3	4	0	1	0	0	0	0	0
Non-Hodgkin Lymphoma	65	39	104	1	0	0	0	0	1	1
Oral Cavity	44	22	66	0	0	1	0	0	0	0
Other Biliary	11	2	13	0	0	0	0	0	0	0
Other Digestive	3	4	7	0	0	1	0	0	0	0
Other Endocrine	1	4	5	1	0	0	0	0	0	1
Other Female	0	13	13	0	0	0	0	0	0	1
Other Male	5	0	5	0	0	0	0	0	0	0
Other Skin	11	1	12	0	0	0	0	0	1	0
Other Respiratory	3	0	3	0	0	0	0	0	1	0
Other Urinary	3	1	4	0	0	0	0	0	0	0
Ovary	0	39	39	0	0	1	0	0	0	0
Pancreas	34	33	67	0	0	0	0	0	0	1
Prostate	351	0	351	0	0	0	0	0	0	0
Small Intestine	13	9	22	0	0	0	0	0	0	1
Soft Tissue including Heart	11	14	25	1	1	0	0	1	3	1
Stomach	24	12	36	0	0	0	0	0	0	0
Testis	18	0	18	0	0	0	1	2	3	6
Thyroid	23	47	70	0	0	0	1	2	5	5
Uterine	0	74	74	0	0	0	0	0	1	1
Mesothelioma	4	3	7	0	0	0	0	0	0	0
All Sites	1,361	1,223	2,584	9	5	5	4	8	25	39

[1] See page 10 for a definition of incidence.

	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
Anus	0	0	0	0	1	1	2	2	0	1	0
Bladder w/ in situ	0	1	2	9	8	12	22	22	25	23	14
Bones and Joints	0	0	0	0	1	0	0	0	0	1	0
Brain	2	0	3	2	7	8	2	5	2	1	2
Breast	12	18	29	29	66	62	47	63	36	25	23
Cervix	1	1	3	1	2	3	2	0	2	0	0
Colorectal	1	8	7	14	20	27	24	37	25	13	12
Esophagus	0	0	1	0	5	5	4	5	10	2	2
Eye	0	0	0	1	0	2	2	2	0	0	0
Gallbladder	0	0	0	0	0	2	0	0	0	0	1
Hodgkin	2	0	0	1	1	0	1	2	0	1	0
Ill-Defined	1	2	2	3	12	5	13	13	15	12	9
Kidney	1	5	3	7	8	12	15	10	11	4	4
Larynx	0	0	2	1	2	5	4	1	1	1	0
Leukemia	2	0	3	2	8	7	11	5	5	8	5
Liver	0	0	0	3	6	7	8	5	2	1	1
Lung	1	1	3	14	28	43	50	51	42	32	28
Melanoma	9	6	8	18	18	21	21	21	7	13	13
Myeloma	1	0	0	0	1	7	6	2	3	3	2
Nasal	0	0	0	0	0	0	0	2	0	0	1
Non-Hodgkin Lymphoma	1	3	3	13	9	10	21	13	11	7	10
Oral Cavity	1	4	5	9	9	14	7	6	4	3	3
Other Biliary	1	0	0	0	2	3	1	2	4	0	0
Other Digestive	0	0	2	1	1	0	0	2	0	0	0
Other Endocrine	0	0	0	0	0	2	0	0	0	1	0
Other Female	0	1	0	0	2	3	3	1	0	1	1
Other Male	0	0	0	0	2	2	0	0	0	1	0
Other Skin	0	0	0	0	1	0	2	0	5	1	2
Other Respiratory	0	0	0	1	0	0	1	0	0	0	0
Other Urinary	0	0	0	1	0	0	0	1	2	0	0
Ovary	0	5	1	3	5	4	8	4	4	1	3
Pancreas	0	1	2	3	7	10	12	10	9	5	7
Prostate	0	1	2	23	50	89	64	62	27	23	10
Small Intestine	0	0	2	1	1	4	2	6	3	1	1
Soft Tissue including Heart	0	0	1	1	5	6	1	3	0	0	1
Stomach	1	1	2	3	3	10	3	4	3	3	3
Testis	2	2	0	2	0	0	0	0	0	0	0
Thyroid	6	6	9	5	8	8	5	4	4	1	1
Uterine	2	3	5	10	10	11	15	5	4	1	6
Mesothelioma	0	1	0	0	2	1	0	1	0	1	1
All Sites	47	70	100	181	311	406	379	372	266	191	166

Wyoming Mortality[1] for 2014: Deaths by Gender and Age (All Sites)

	Male	Female	Total	00-04	05-09	10-14	15-19	20-24	25-29	30-34
Anus	0	1	1	0	0	0	0	0	0	0
Bladder w/ in situ	22	7	29	0	0	0	0	0	0	0
Bones and Joints	1	2	3	0	0	0	0	1	0	0
Brain	19	11	30	0	0	0	0	0	0	1
Breast	0	53	53	0	0	0	0	0	0	0
Cervix	0	9	9	0	0	0	0	0	0	1
Colorectal	48	21	69	0	0	0	0	0	0	0
Esophagus	28	3	31	0	0	0	0	0	0	0
Eye	0	0	0	0	0	0	0	0	0	0
Gallbladder	0	5	5	0	0	0	0	0	0	0
Hodgkin	1	1	2	0	0	0	0	0	0	0
Ill-Defined	41	27	68	0	0	0	0	2	0	0
Kidney	16	10	26	0	0	0	0	0	0	1
Larynx	5	2	7	0	0	0	0	0	0	0
Leukemia	26	23	49	0	0	1	0	1	0	0
Liver	19	10	29	0	0	0	0	0	0	0
Lung	99	113	212	0	0	0	0	0	0	1
Melanoma	16	5	21	0	0	0	0	0	1	0
Myeloma	6	0	6	0	0	0	0	0	0	0
Nasal	2	1	3	0	0	0	0	0	0	0
Non-Hodgkin Lymphoma	24	15	39	0	0	0	0	0	0	0
Oral Cavity	13	3	16	0	0	0	0	0	0	0
Other Biliary	8	1	9	0	0	0	0	0	0	0
Other Digestive	1	2	3	0	0	0	0	0	0	0
Other Endocrine	1	1	2	0	0	0	0	0	0	0
Other Female	0	3	3	0	0	0	0	0	0	0
Other Male	0	0	0	0	0	0	0	0	0	0
Other Skin	2	0	2	0	0	0	0	0	0	0
Other Respiratory	0	1	1	0	0	0	0	0	0	0
Other Urinary	1	0	1	0	0	0	0	0	0	0
Ovary	0	25	25	0	0	0	0	0	0	0
Pancreas	37	31	68	0	0	0	0	0	0	1
Prostate	44	0	44	0	0	0	0	0	0	0
Small Intestine	1	0	1	0	0	0	0	0	0	0
Soft Tissue including Heart	2	4	6	0	0	0	0	0	0	0
Stomach	5	4	9	0	0	0	0	0	0	0
Testis	2	0	2	0	0	0	0	1	0	0
Thyroid	3	2	5	0	0	0	0	0	0	0
Uterine	0	20	20	0	0	0	0	0	0	0
Mesothelioma	2	2	4	0	0	0	0	0	0	0
All Sites	495	418	913	0	0	1	0	5	1	5

[1]See page 10 for definition of mortality.

	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
Anus	0	0	0	0	0	0	0	1	0	0	0
Bladder w/ in situ	0	0	0	0	2	0	1	6	6	6	8
Bones and Joints	0	0	0	0	0	0	0	1	0	0	1
Brain	0	1	2	1	8	4	2	5	3	2	1
Breast	0	0	1	3	3	6	14	6	4	5	11
Cervix	0	0	2	2	0	1	1	1	1	0	0
Colorectal	0	4	1	6	3	10	9	13	5	8	10
Esophagus	0	0	2	1	2	2	9	6	5	0	4
Eye	0	0	0	0	0	0	0	0	0	0	0
Gallbladder	0	1	0	0	0	1	0	1	1	0	1
Hodgkin	0	0	0	0	1	0	0	0	0	1	0
Ill-Defined	0	1	0	2	5	6	9	10	14	9	10
Kidney	0	0	0	1	2	3	7	5	2	5	0
Larynx	0	0	0	1	0	1	0	2	2	0	1
Leukemia	0	0	0	0	1	4	8	3	16	7	8
Liver	0	0	0	1	5	9	4	3	3	2	2
Lung	0	1	1	7	14	33	39	35	34	29	18
Melanoma	1	0	0	0	3	3	2	2	3	4	2
Myeloma	0	0	0	1	0	0	0	1	1	1	2
Nasal	0	0	0	1	0	0	0	2	0	0	0
Non-Hodgkin Lymphoma	0	1	0	2	3	2	9	4	4	6	8
Oral Cavity	0	0	2	0	2	2	0	1	4	3	2
Other Biliary	0	0	1	0	0	1	2	3	2	0	0
Other Digestive	0	0	0	0	0	1	1	0	0	1	0
Other Endocrine	0	0	0	0	1	1	0	0	0	0	0
Other Female	0	0	1	1	0	0	0	1	0	0	0
Other Male	0	0	0	0	0	0	0	0	0	0	0
Other Skin	0	0	0	0	0	0	0	0	0	1	1
Other Respiratory	0	0	0	1	0	0	0	0	0	0	0
Other Urinary	0	0	0	0	0	0	0	1	0	0	0
Ovary	0	0	1	1	0	4	1	6	5	2	5
Pancreas	0	1	1	5	9	6	11	12	3	9	10
Prostate	0	0	0	0	2	3	6	7	2	11	13
Small Intestine	0	0	0	0	0	0	1	0	0	0	0
Soft Tissue including Heart	0	0	0	0	1	1	2	0	0	1	1
Stomach	1	0	0	2	1	1	0	1	0	1	2
Testis	0	0	1	0	0	0	0	0	0	0	0
Thyroid	0	0	0	1	0	1	0	2	0	0	1
Uterine	0	1	1	0	0	5	3	4	3	1	2
Mesothelioma	0	0	0	0	1	0	0	2	0	0	1
All Sites	2	11	17	40	69	111	141	147	123	115	125

Wyoming Incidence for 2014: Cases by Race and Ethnicity (Top 15 Sites Only)

	Total	White	African American	Native American	Asian	Other	Ethnicity: Hispanic/Latino
All Sites	2,583	2,512	22	31	9	9	75
Bladder	140	137	1	2	0	0	3
Brain	42	42	0	0	0	0	0
Breast (Female)	412	405	1	4	1	1	12
Colorectal	193	186	2	3	1	1	9
Kidney	85	81	2	2	0	0	5
Leukemia	62	60	0	2	0	0	4
Lung	294	283	2	6	2	1	3
Melanoma	163	163	0	0	0	0	1
Non-Hodgkin Lymphoma	104	103	0	0	0	1	3
Oral Cavity	66	60	0	3	1	2	2
Ovary	39	37	1	1	0	0	0
Pancreas	67	64	1	1	1	0	0
Prostate	351	345	5	0	1	0	7
Thyroid	70	69	0	0	1	0	1
Uterine	74	71	2	1	0	0	5

Wyoming Mortality for 2014: Cases by Race and Ethnicity (Top 15 Sites Only)

	Total	White	African American	Native American	Asian	Other	Ethnicity: Hispanic/Latino
All Sites	913	894	6	10	3	0	32
Bladder	29	29	0	0	0	0	1
Brain/CNS	30	30	0	0	0	0	0
Breast (Female)	53	51	0	2	0	0	3
Colorectal	69	67	1	1	0	0	3
Kidney	26	24	0	2	0	0	0
Leukemia	49	49	0	0	0	0	4
Lung	212	209	1	0	2	0	2
Melanoma	21	21	0	0	0	0	1
Non-Hodgkin Lymphoma	39	39	0	0	0	0	0
Oral Cavity	16	16	0	0	0	0	0
Ovary	25	25	0	0	0	0	0
Pancreas	68	67	0	1	0	0	2
Prostate	44	43	1	0	0	0	1
Thyroid	5	5	0	0	0	0	0
Uterine	20	18	1	0	1	0	2

State of Wyoming - 2014

Top Cancer Sites by Gender and Age - Incidence and Mortality

Top Incidence Cancer Sites by Gender - 2014

Total		Male		Female	
Breast	412	Prostate	351	Breast	406
Prostate	351	Lung	143	Lung	151
Lung	294	Bladder	117	Colorectal	92
Colorectal	193	Melanoma	103	Uterine	74
Melanoma	163	Colorectal	101	Melanoma	60

Top Incidence Sites by Age (Case count included only if more than 2 cases per cancer)

0-4		5-9		10-14		15-19		20-24	
Eye	3	Each site has less than 3 cases		Each site has less than 3 cases		Each site has less than 3 cases		Each site has less than 3 cases	
25-29		**30-34**		**35-39**		**40-44**		**45-49**	
Thyroid	5	Testis	6	Breast	12	Breast	18	Breast	29
Melanoma	3	Thyroid	5	Melanoma	9	Colorectal	8	Thyroid	9
Testis	3	Brain/CNS	4	Thyroid	6	Melanoma	6	Melanoma	8
Soft Tissue including heart	3	Colorectal	4			Thyroid	6	Colorectal	7
		Melanoma	4			Kidney & Ovary	5 (each)	Uterine & Oral (each)	5 (each)
50-54		**55-59**		**60-64**		**65-69**		**70-74**	
Breast	29	Breast	66	Prostate	89	Prostate	64	Breast	63
Prostate	23	Prostate	50	Breast	62	Lung	50	Prostate	62
Melanoma	18	Lung	28	Lung	43	Breast	47	Lung	51
Colorectal	14	Colorectal	20	Colorectal	27	Colorectal	24	Colorectal	37
Lung	14	Melanoma	18	Melanoma	21	Bladder	22	Bladder	22
75-79		**80-84**		**85+**					
Lung	42	Lung	32	Lung	28				
Breast	36	Breast	25	Breast	23				
Prostate	27	Bladder	23	Bladder	14				
Bladder	25	Prostate	23	Colorectal	12				
Colorectal	25	Melanoma	13	NHL & Prostate	10 (each)				

Top Mortality Cancer Sites by Gender - 2014

Total		Male		Female	
Lung	212	Lung	99	Lung	113
Colorectal	69	Colorectal	48	Breast	53
Ill-Defined	68	Prostate	44	Pancreas	31
Pancreas	68	Ill-Defined	41	Ill-Defined	27
Breast	53	Pancreas	37	Leukemia	23

Top Mortality Sites by Age (Mortality count included only if 2 or more cases per cancer)

0-4		5-9		10-14		15-19		20-24	
Each site has less than 2 deaths		Each site has less than 2 deaths		Each site has less than 2 deaths		Each site has less than 2 deaths		Each site has less than 2 deaths	
25-29		30-34		35-39		40-44		45-49	
Each site has less than 2 deaths		Each site has less than 2 deaths		Each site has less than 2 deaths		Colorectal	4	Brain/CNS	2
								Cervix	2
								Esophagus	2
								Oral	2
50-54		55-59		60-64		65-69		70-74	
Lung	7	Lung	14	Lung	33	Lung	39	Lung	35
Colorectal	6	Pancreas	9	Colorectal	10	Breast	14	Colorectal	13
Pancreas	5	Brain/CNS	8	Liver	9	Pancreas	11	Pancreas	12
Breast	3	Ill-Defined	5	Breast, Colorectal, Pancreas	6 (each)	Colorectal, Esophagus, NHL	9 (each)	Ill-Defined	11
		Liver	5					Prostate	7
75-79		80-84		85+					
Lung	34	Lung	29	Lung	18				
Leukemia	16	Prostate	11	Prostate	13				
Ill-Defined	14	Pancreas	9	Breast	11				
Bladder	6	Colorectal	8	Colorectal	10				
		Leukemia	7	Pancreas	10				

Relative Survival Rates State of Wyoming
2007-2014
All Sites and Top 15 Cancers

Relative Survival by Cancer Type: 2007-2014 (All Ages Combined)

	12 Months	24 Months	36 Months	48 Months	**60 Months**
All Sites	82.40%	75.70%	72.20%	69.30%	**66.90%**
Bladder w/in situ	90.80%	82.90%	80.20%	76.20%	**74.00%**
Brain/CNS	60.30%	42.80%	38.20%	31.90%	**27.80%**
Breast (Female)	97.80%	95.90%	93.20%	90.80%	**89.10%**
Colorectal	83.50%	73.70%	68.10%	63.70%	**60.20%**
Kidney	88.40%	81.60%	77.90%	73.40%	**68.10%**
Leukemia	76.50%	71.10%	66.50%	61.60%	**58.20%**
Lung	43.40%	26.80%	21.40%	17.70%	**15.30%**
Melanoma	99.10%	96.70%	95.90%	93.70%	**93.20%**
Non-Hodgkin	82.60%	77.90%	77.40%	73.10%	**71.00%**
Oral Cavity	87.70%	77.70%	70.80%	66.20%	**58.30%**
Ovary	79.80%	68.90%	57.20%	51.80%	**45.50%**
Pancreas	34.00%	18.50%	11.7%	8.10%	**8.10%**
Prostate	99.80%	99.60%	99.10%	98.50%	**98.30%**
Thyroid	98.30%	98.00%	96.60%	96.60%	**96.40%**
Uterine	94.00%	90.60%	85.40%	82.70%	**77.90%**

Relative Survival by Cancer Type: 2007-2014 (Ages 00-19 years old)

	12 Months	24 Months	36 Months	48 Months	**60 Months**
All Sites	92.70%	89.00%	89.00%	86.40%	**83.10%**
Bone & Joint	81.10%	74.80%	71.50%	66.00%	**66.00%**
Brain	82.50%	74.70%	74.70%	67.30%	**58.90%**
Hodgkin Lymphoma	92.30%	92.30%	92.30%	92.30%	**92.30%**
Leukemia	93.20%	89.30%	89.30%	89.30%	**83.20%**
Melanoma	76.20%	76.20%	76.20%	76.20%	**76.20%**
Non-Hodgkin	100.00%	100.00%	100.00%	100.00%	**100.00%**
Soft Tissue including Heart	100.00%	100.00%	100.00%	100.00%	**100.00%**

Note: Recurrent percentages across months are partly due to low numbers of cases in this age-group

Relative Survival: is a net survival measure representing cancer survival in the absence of other causes of death. It is defined as the ratio of the proportion of observed survivors in a cohort of cancer patients to the proportion of expected survivors in a comparable set of cancer-free individuals for a specific time period.

5-Year Survival: A 5-year (60 months) survival rate is important when discussing cancer because a person who is diagnosed with cancer (e.g., breast cancer) is considered "cured" if they can survive five years after treatment and they are found to have no other cancer. This does not mean that they may not develop another cancer after five years or even have a reoccurrence, but for that initial diagnosis they are considered "cured."

Stage: Many factors play a part in the survival of a cancer patient including the stage at which the cancer is detected. Having a cancer diagnoses at an early stage (e.g., local or Stage I) generally results in a better survival prognosis that a cancer detected in its later stages (e.g., distant or Stage IV).

Summary of
All Cancer Sites Combined
and
Top 15 Sites

2014 Wyoming Incidence and Mortality Rates

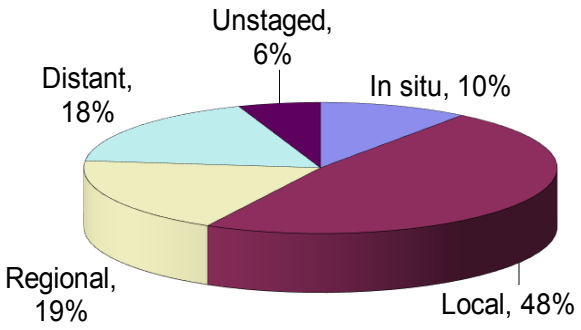
All Cancer Sites

Incidence and Mortality Summary

	Male	Female	Total
Invasive Cases	1,361	1,223	2,584
In situ Cases	135	150	285
WY Incidence	414.0*	372.6	389.5*
US Incidence	474.4	415.9	438.5
Cancer Deaths	495	418	913
WY Mortality	161.9*	122.0	139.8
US Mortality	195.7	139.7	163.4

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



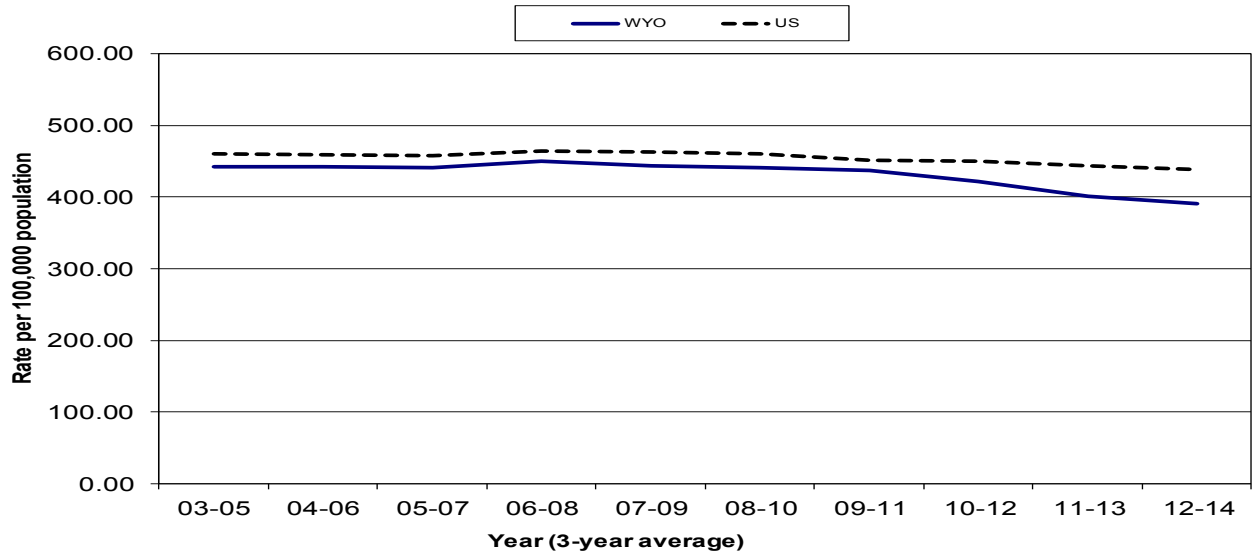
The incidence rates for Wyoming's total population and males were significantly lower than the United States rates for 2014. The incidence rate for females, while lower than the national rate, was not statistically significant. The mortality rates for total population, males and females were all lower than the United States mortality, but only the rate for males was statistically significant.

The 12-year incidence trend for Wyoming continues a modest decline that started in 2009-11, while the U.S. trend appears steady.

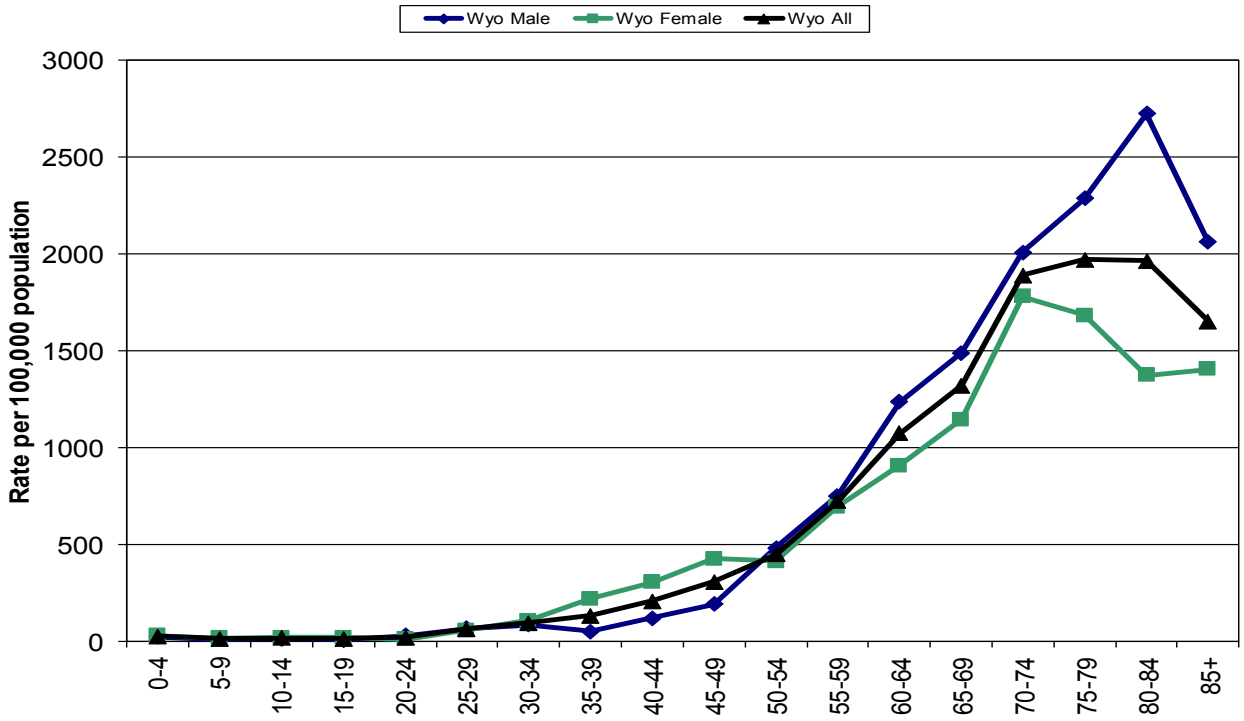
There were no significant changes in the percentages of cancer diagnosed at each stage from 2013 to 2014. Approximately 60% of cancers continue to be staged at either In situ or Local which is considered "early" and are more treatable and curable than cancers diagnosed as Regional or Distant (late).

There were no significant differences between CHD rates for incidence or mortality.

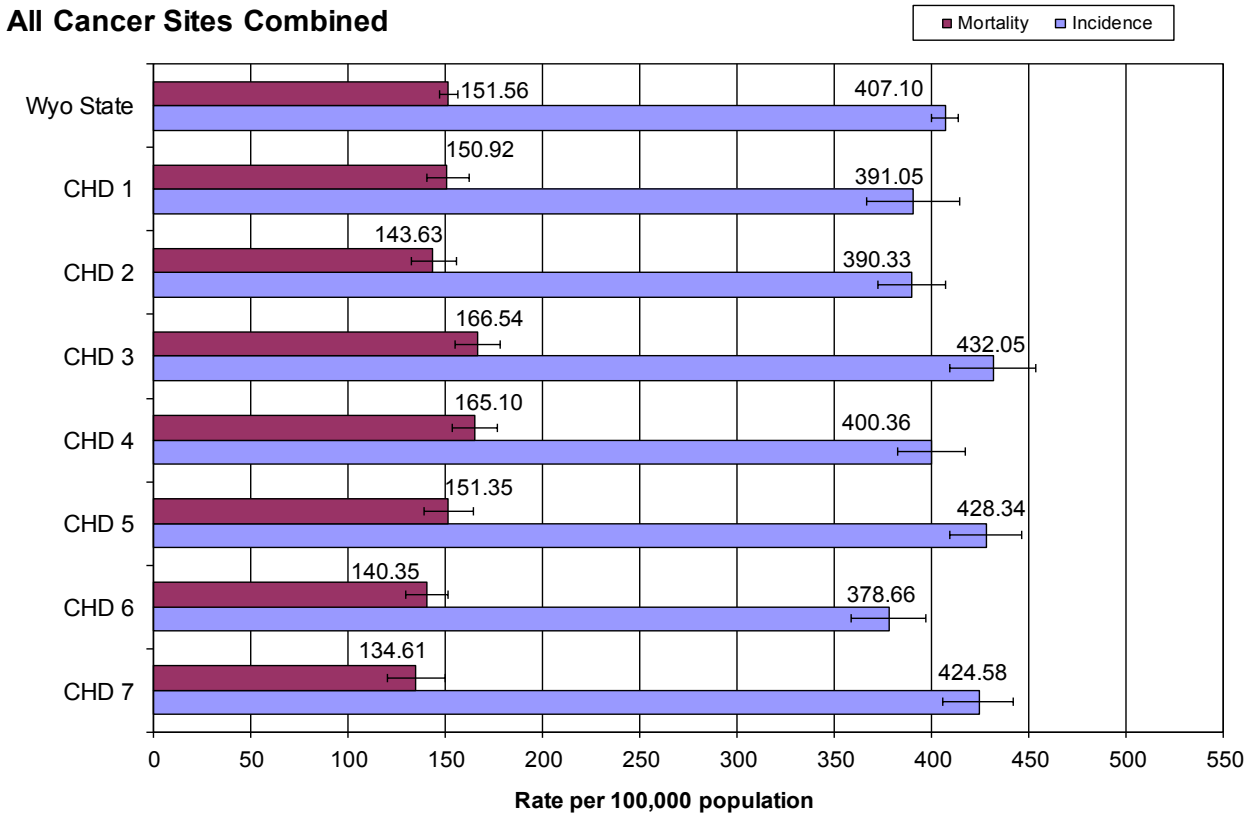
12-Year Incidence Trend



Age-Specific Incidence Rates - 2014



Cancer Health District Incidence and Mortality
5-Year Average, 2010-2014



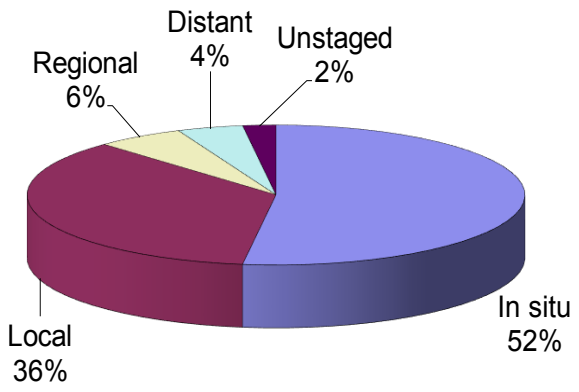
Bladder (Urinary)

Incidence and Mortality Summary

	Male	Female	Total
Invasive Cases	117	23	140
In situ Cases	58	15	73
WY Incidence	39.2	6.7	22.1
US Incidence	36.6	8.7	20.9
Cancer Deaths	19	11	30
WY Mortality	8.3	2.1	4.9
US Mortality	8.1	2.2	4.6

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



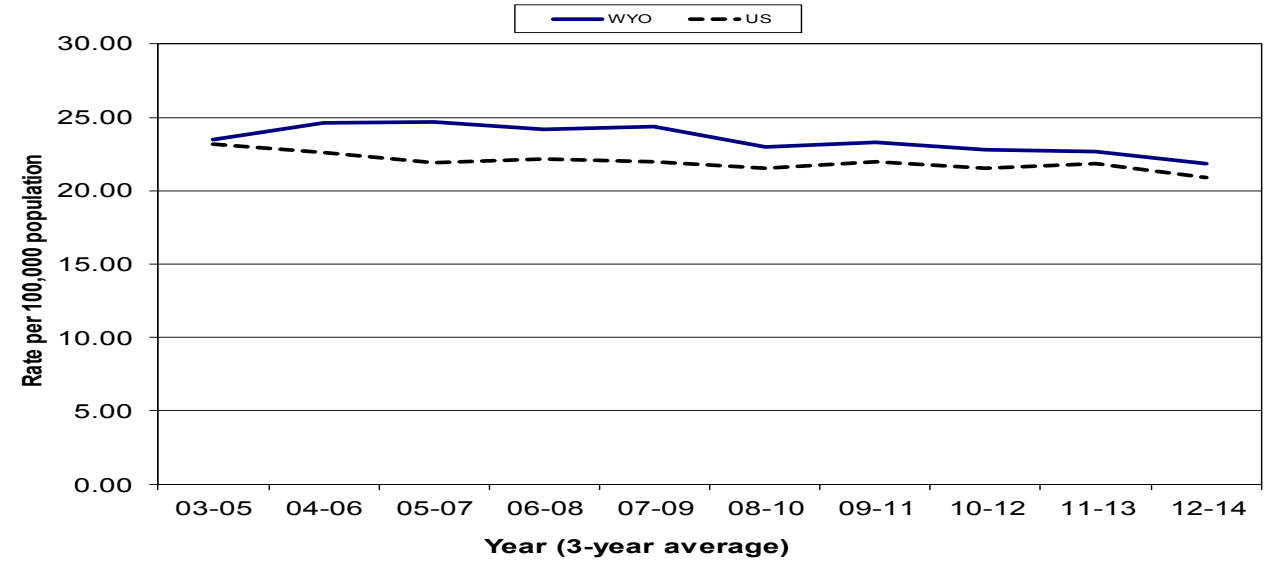
The incidence and mortality rates in Wyoming for males and total population were higher than the national rate, while the female rate was slightly lower than the national rates in 2014. None of the differences were statistically significant.

The 12-year incidence trend appears to show a small decrease from 2011-13 to 2012-14 for both Wyoming and the nation as a whole.

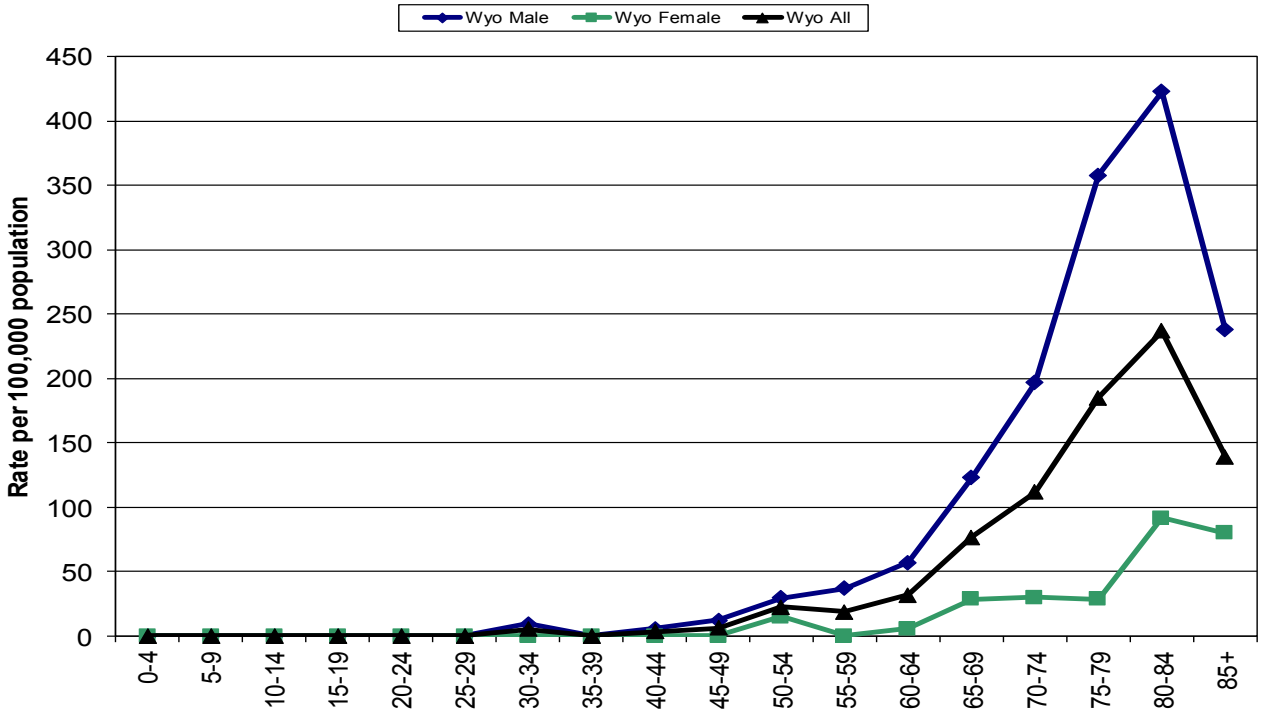
The percent of bladder cancers diagnosed at each stage in 2014 were nearly identical to 2013.

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

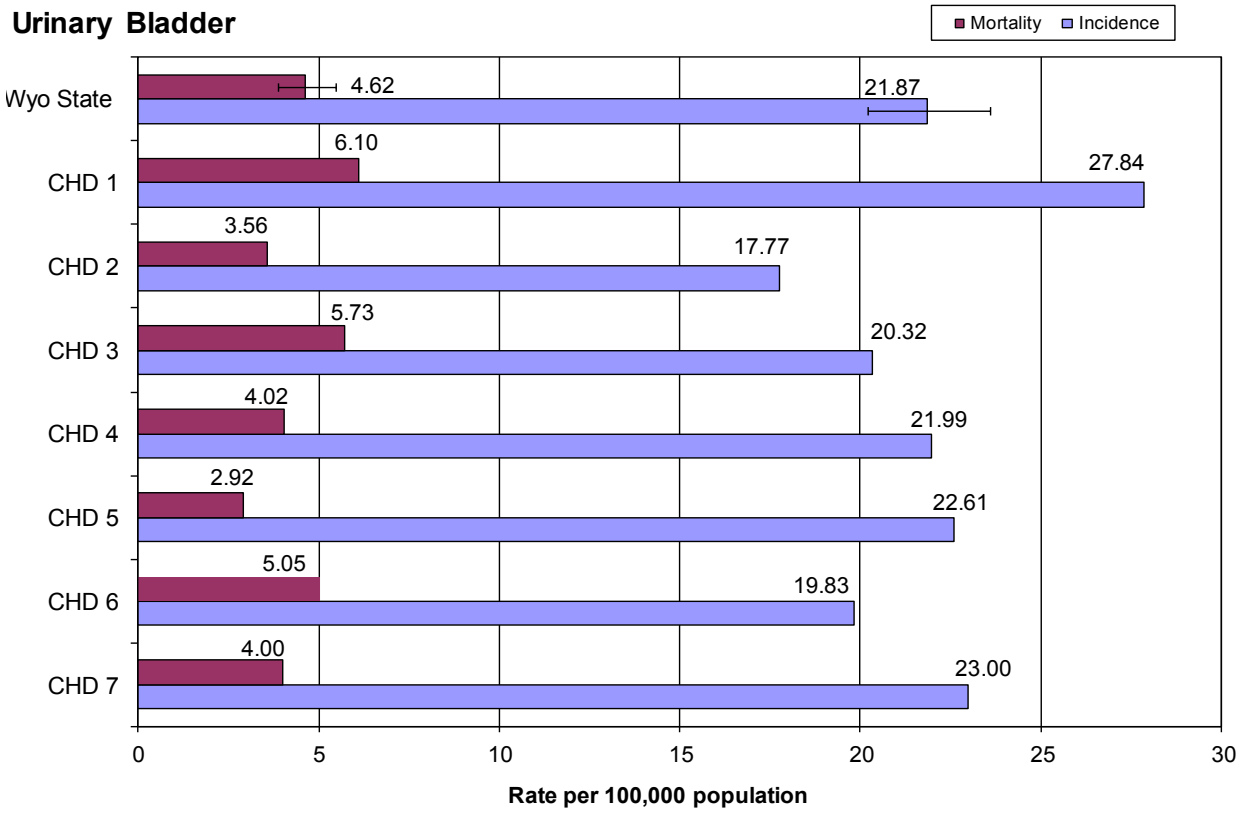
12-Year Incidence Trend



Age-Specific Incidence Rates - 2014



Cancer Health District Incidence and Mortality
5-Year Average, 2010-2014



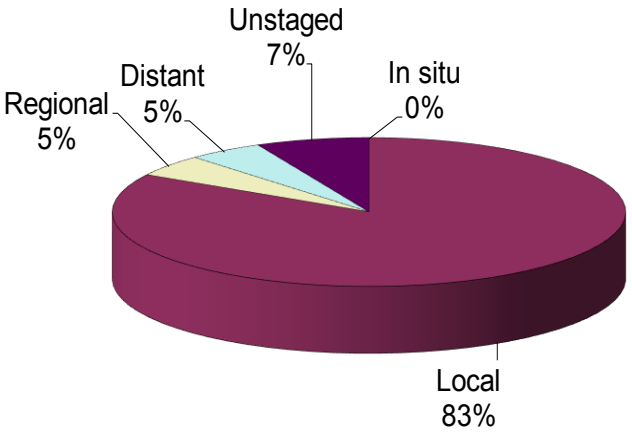
Brain/Central Nervous System (CNS)

Incidence and Mortality Summary

	Male	Female	Total
Invasive Cases	24	18	42
WY Incidence	6.9	5.9	6.4
US Incidence	8.1	6.0	7.0
Cancer Deaths	19	11	30
WY Mortality	5.7	3.4	4.5
US Mortality	5.6	4.0	4.7

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



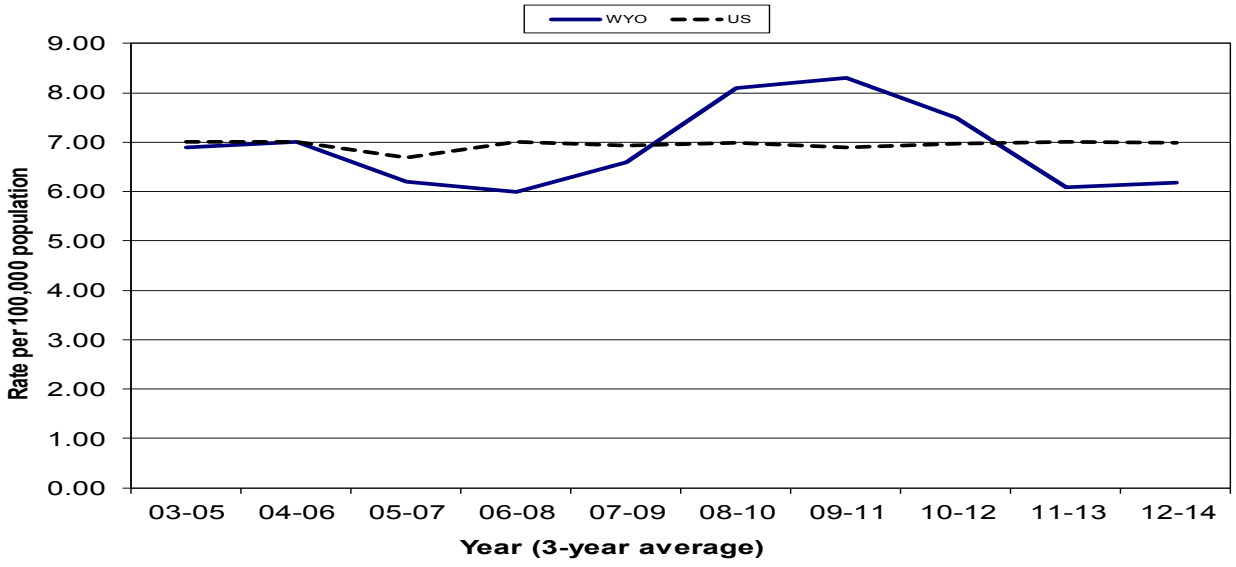
The incidence and mortality rates of Brain/CNS cancer in Wyoming residents were all lower than the national rate for 2014. However, none of these differences were significant.

The 12-year trend shows a leveling off in 2011-13 after a solid decrease starting in 2009-11. The national rate is unchanged.

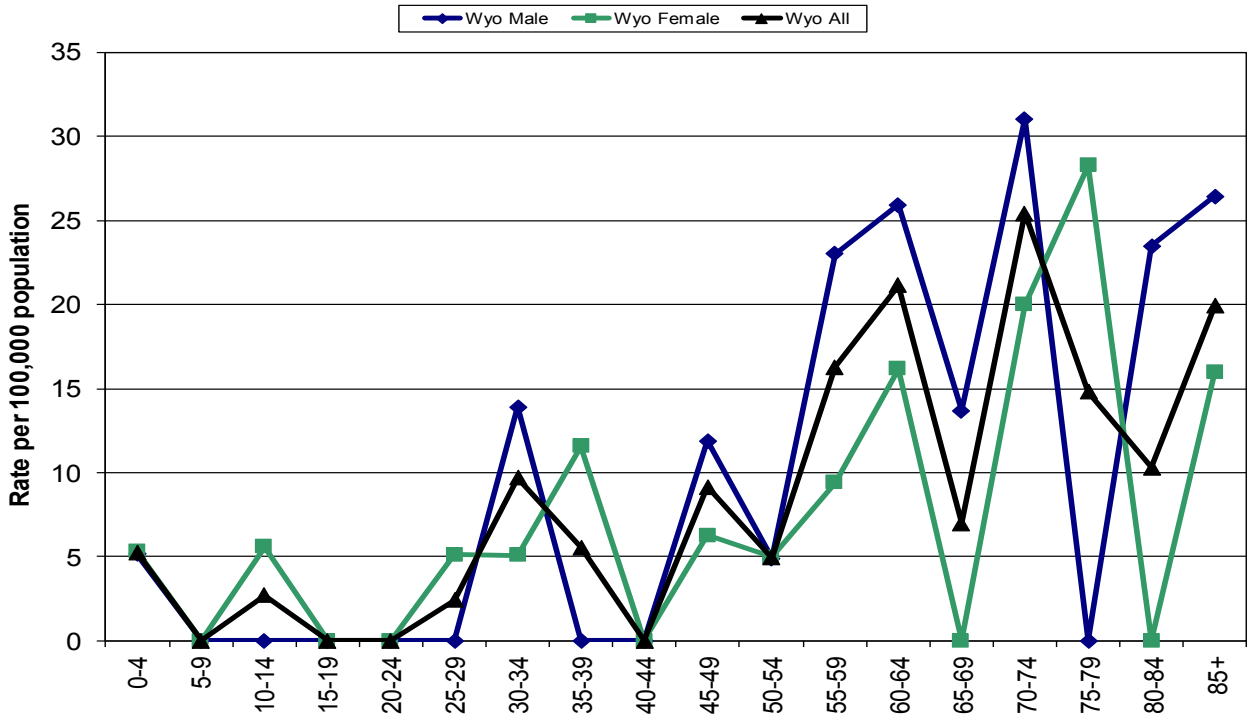
The percentage of cases diagnosed as unstaged increase from zero in 2013 to 7% in 2014, while cases diagnosed as Regional declined from 13%in 2013 to 5% in 2014. None of these changes were statistically significant.

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

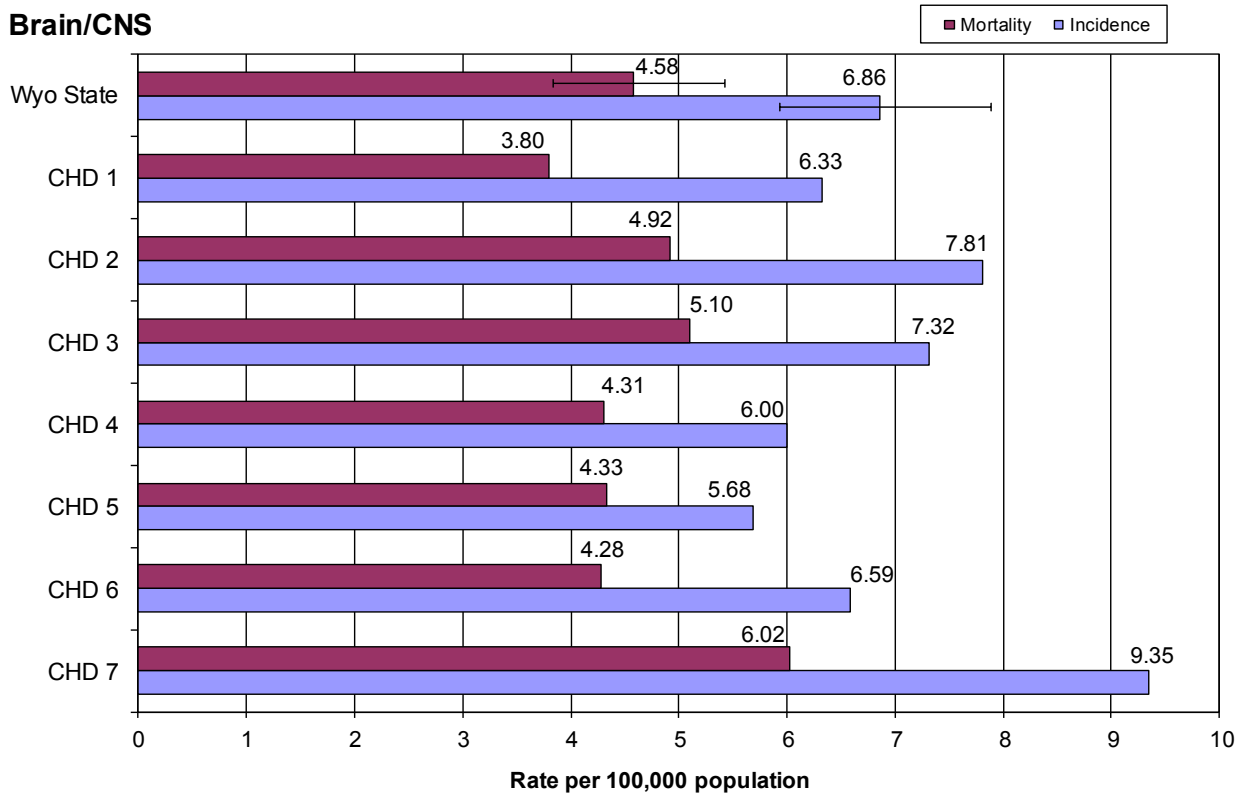
12-Year Incidence Trend



Age-Specific Incidence Rates - 2014



Cancer Health District Incidence and Mortality
5-Year Average, 2010-2014



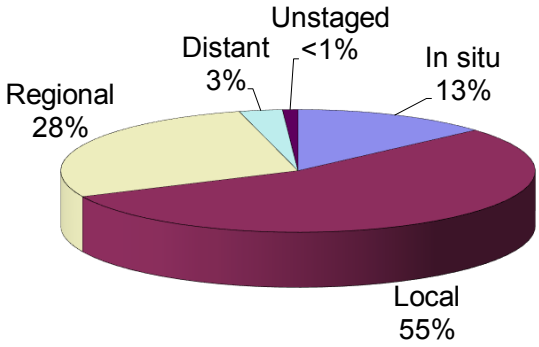
Breast (Female Only)

Incidence and Mortality Summary

	Female
Invasive Cases	406
In situ Cases	62
WY Incidence	122.8
US Incidence	127.8
Cancer Deaths	53
WY Mortality	14.5
US Mortality	20.3

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



The incidence and mortality rates of female breast cancer in Wyoming were both lower than the national rate in 2014, though not significantly.

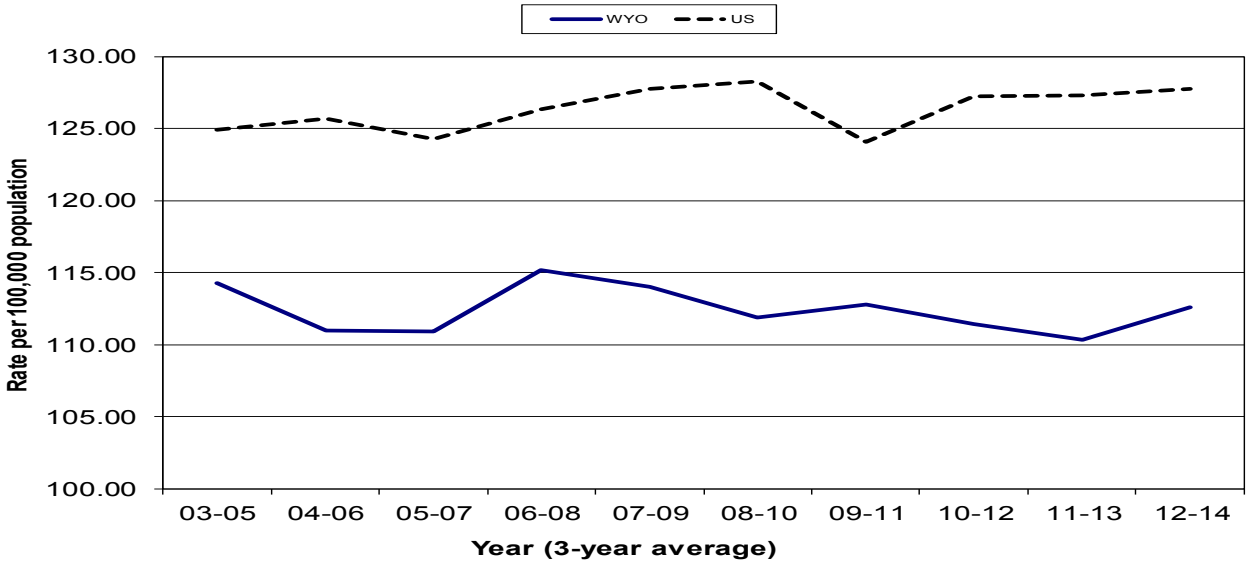
The 12-year incidence trend shows an rather sharp increase from 2011-13 to 2012-14 for Wyoming, while the national trend shows only a very small increase in the same time period.

The percentage of cases diagnosed as local was down from 63% in 2013, while the percent diagnosed as regional increased from 2013 (18%) to 2014.

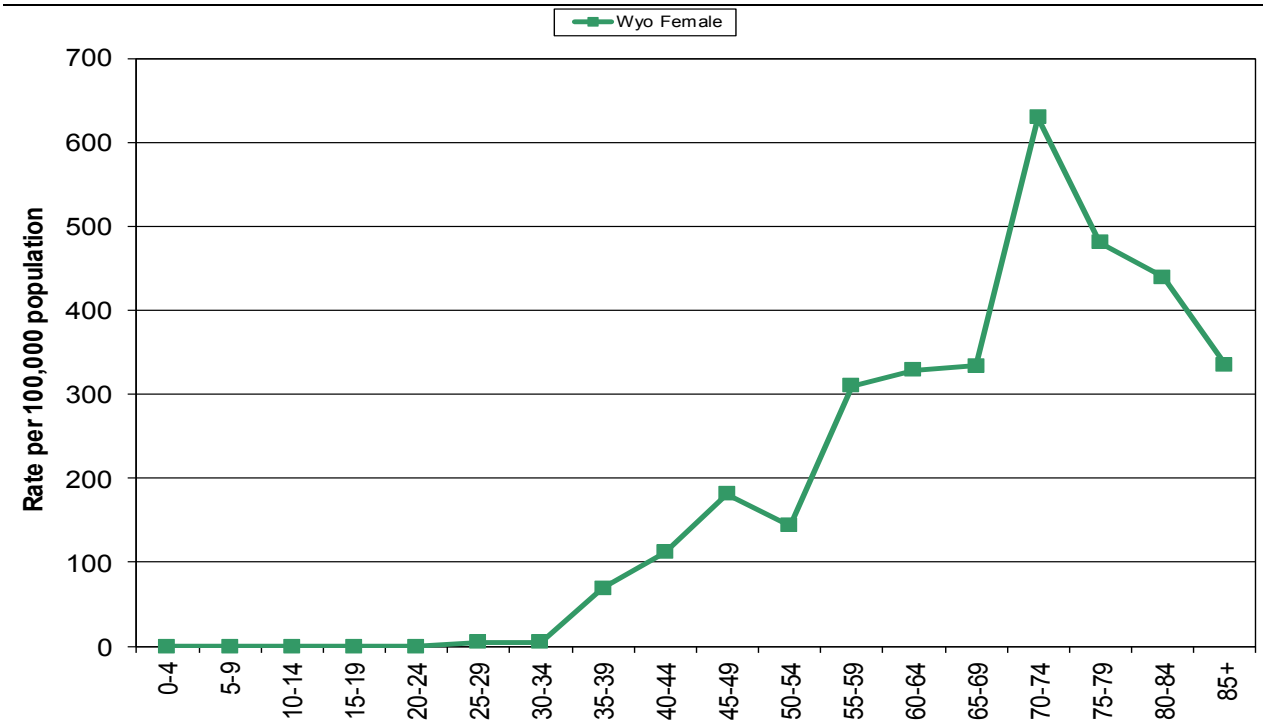
No statistically significant differences were found for incidence or mortality between CHDs.

There were eight cases (6 malignant and 2 In situ) of breast cancer diagnosed in Wyoming males in 2014.

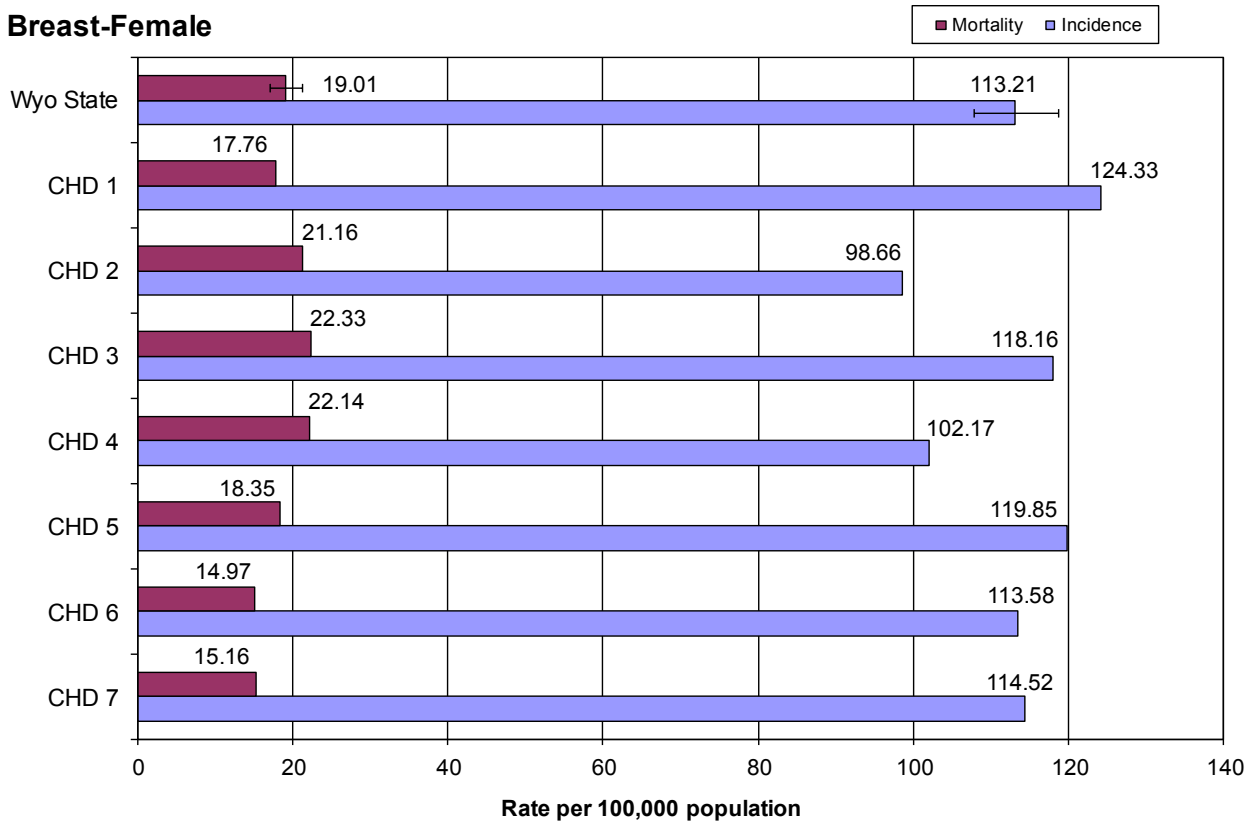
12-Year Incidence Trend



Age-Specific Incidence Rates - 2014



Cancer Health District Incidence and Mortality
5-Year Average, 2010-2014



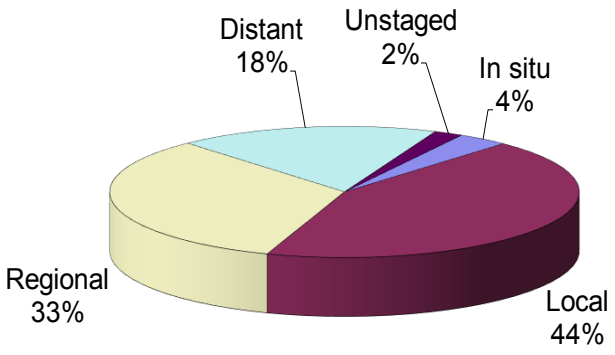
Colorectal

Incidence and Mortality Summary

	Male	Female	Total
Invasive Cases	101	92	193
In situ Cases	2	5	7
WY Incidence	31.3	28.6	29.8
US Incidence	42.9	33.2	37.7
Cancer Deaths	48	21	69
WY Mortality	15.5	6.3	10.7
US Mortality	16.9	11.9	14.1

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



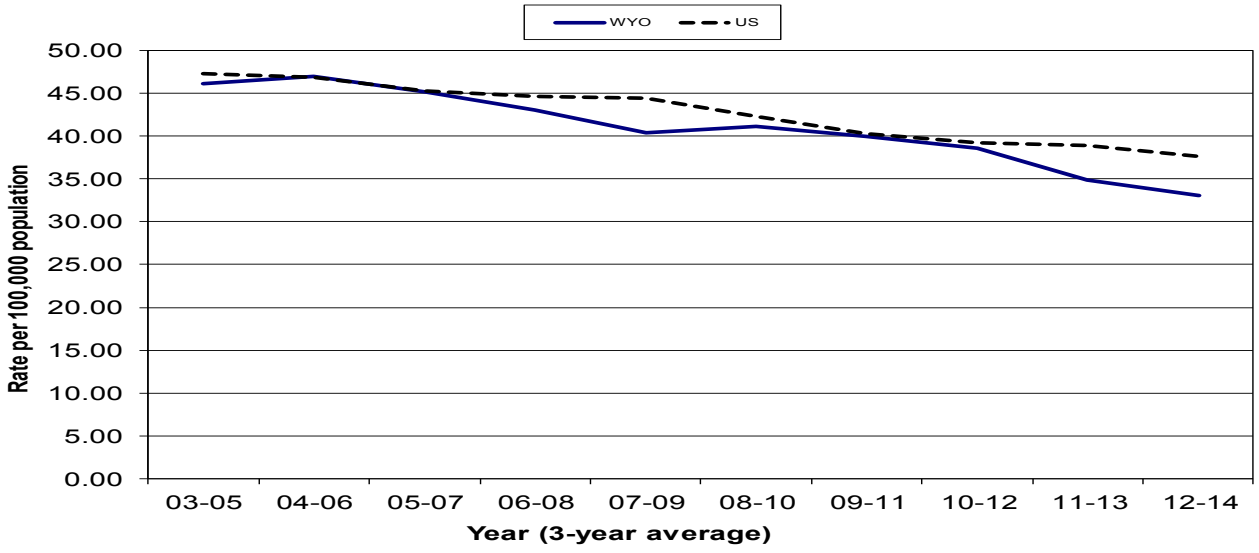
The Wyoming incidence and mortality rates for colorectal cancer in males, females and total population were all lower than the national rates in 2014. None of these differences were statistically significant.

The 12-year incidence graph shows that the incidence rates in Wyoming and the nation are both decreasing.

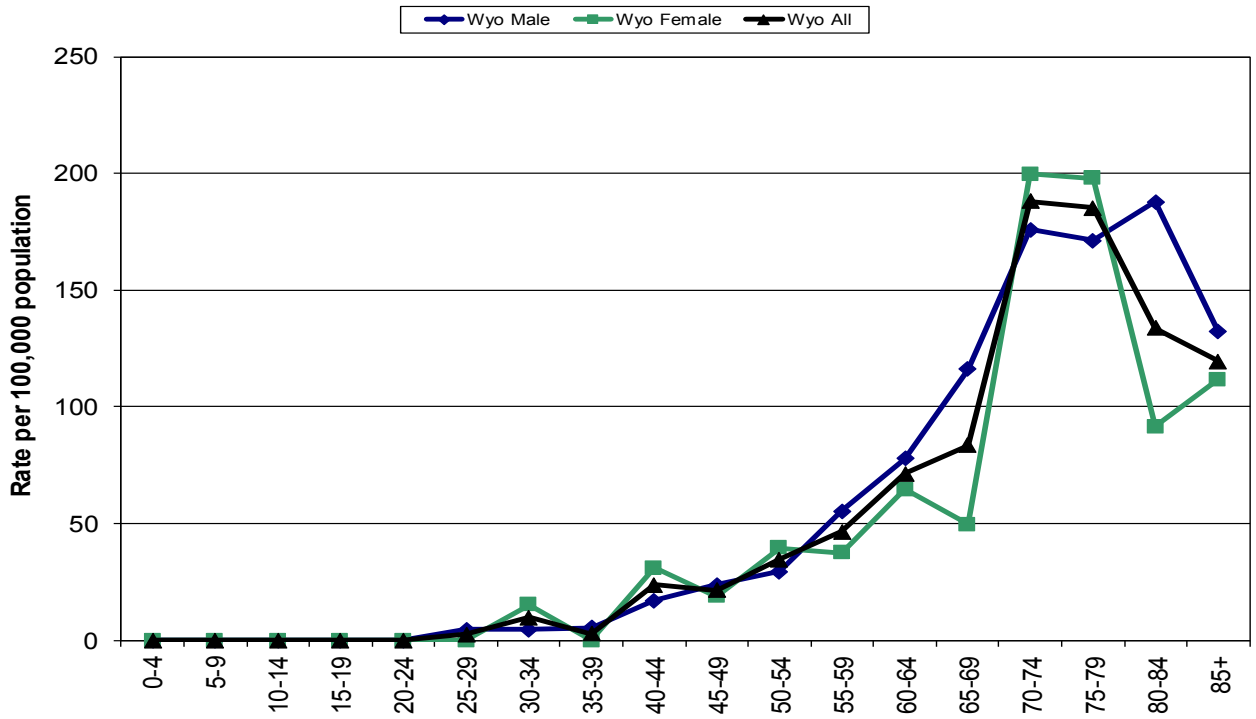
The percentage of colorectal cancers diagnosed at the distant stage in 2014 was higher than 2013 (11%), though this difference was not statistically significant.

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

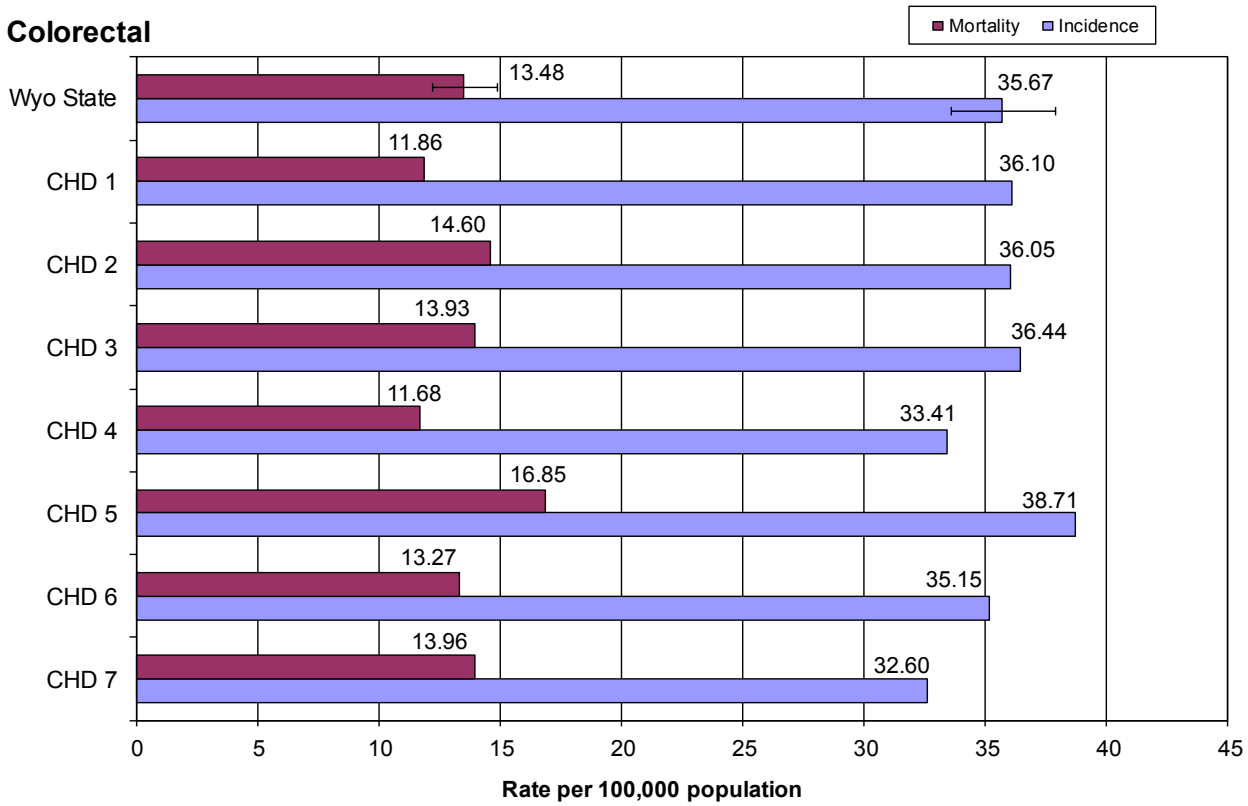
12-Year Incidence Trend



Age-Specific Incidence Rates - 2014



Cancer Health District Incidence and Mortality
5-Year Average, 2010-2014



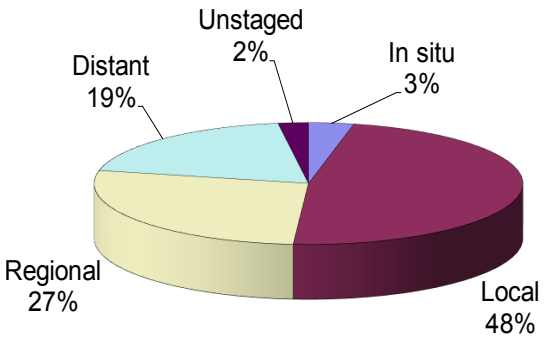
Kidney/Renal Pelvis

Incidence and Mortality Summary

	Male	Female	Total
Invasive Cases	56	29	85
WY Incidence	17.5	9.0	13.1
US Incidence	22.0	10.8	16.0
Cancer Deaths	16	10	26
WY Mortality	5.3	2.7	3.8
US Mortality	5.8	2.5	4.0

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



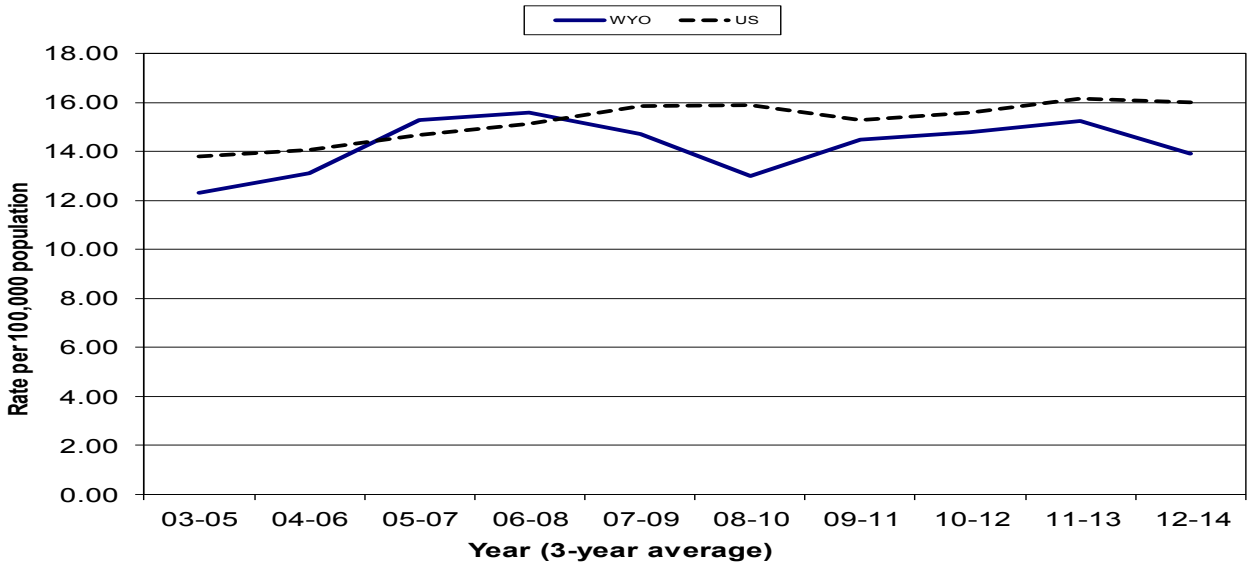
The incidence rates for kidney/renal pelvis cancer in Wyoming males, females and the total population were all lower than the national rates in 2014. The mortality rate for Wyoming females was slightly higher than the national, while the two other rates were both lower. None of these differences were statistically significant.

The 12-year trend shows a decrease for Wyoming from 2011-13 to 2012-14 while the national rate remained steady.

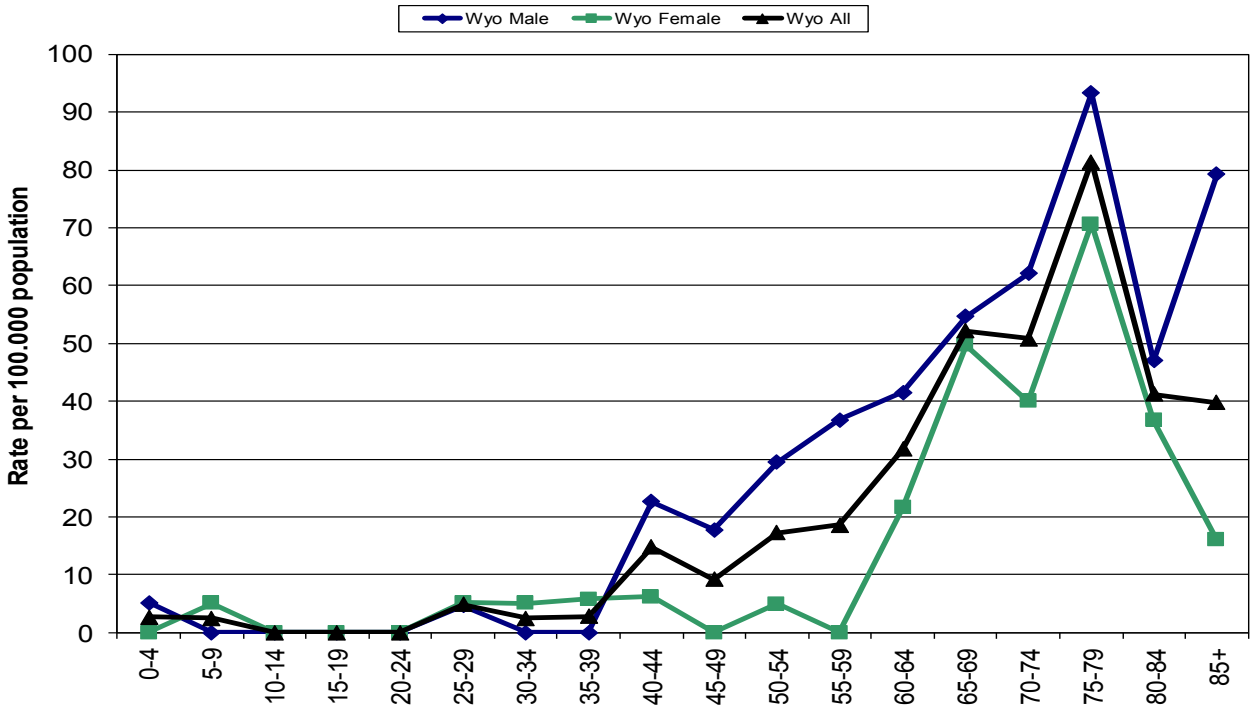
The percent of cases diagnosed as Local in 2014 decreased from 2013 (63%), while there was a significant increase in the percent diagnosed as Regional (14% in 2013).

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

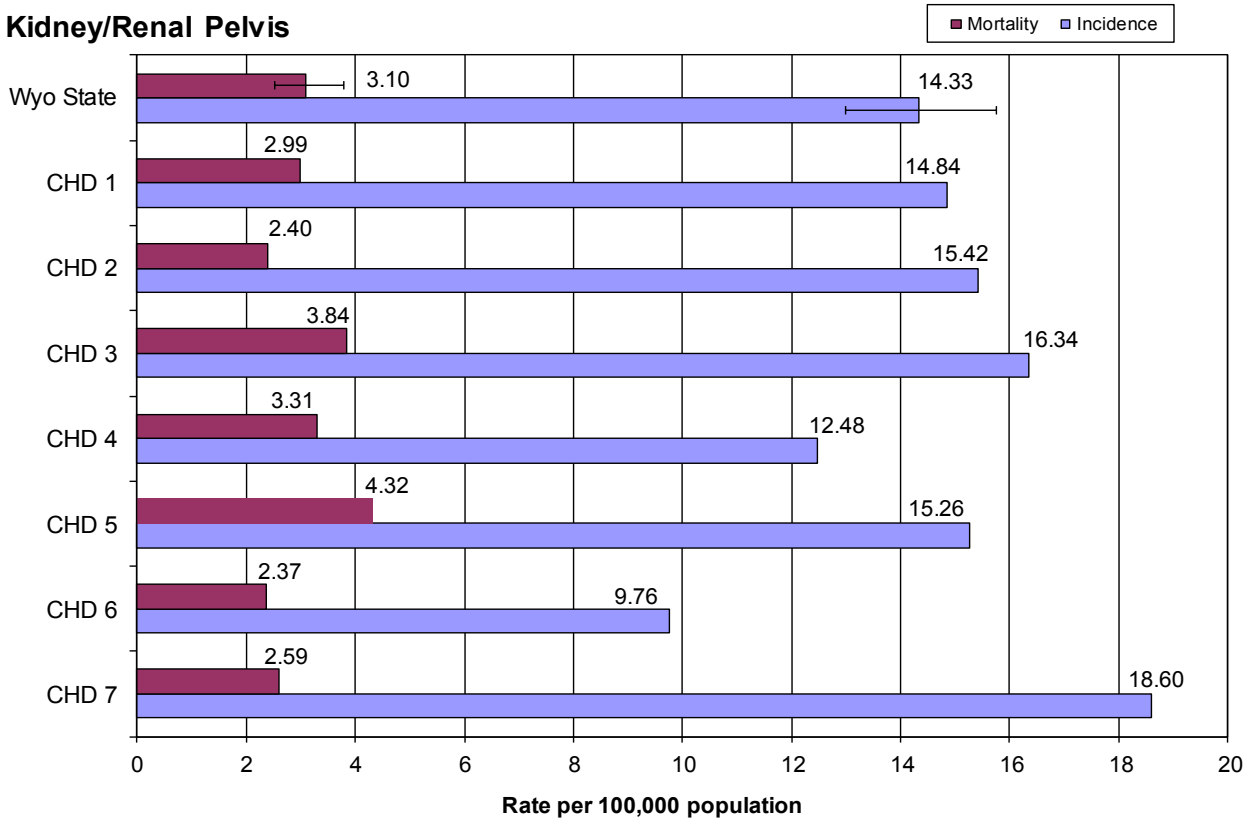
12-Year Incidence Trend



Age-Specific Incidence Rates - 2014



Cancer Health District Incidence and Mortality
5-Year Average, 2010-2014



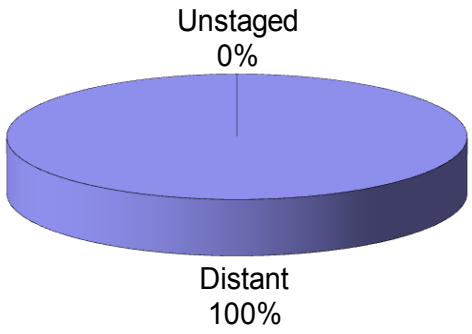
Leukemia

Incidence and Mortality Summary

	Male	Female	Total
Invasive Cases	41	21	62
WY Incidence	12.7	6.7	9.4
US Incidence	18.0	10.8	14.1
Cancer Deaths	26	23	49
WY Mortality	9.1	7.2	8.0
US Mortality	9.4	5.2	7.0

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis

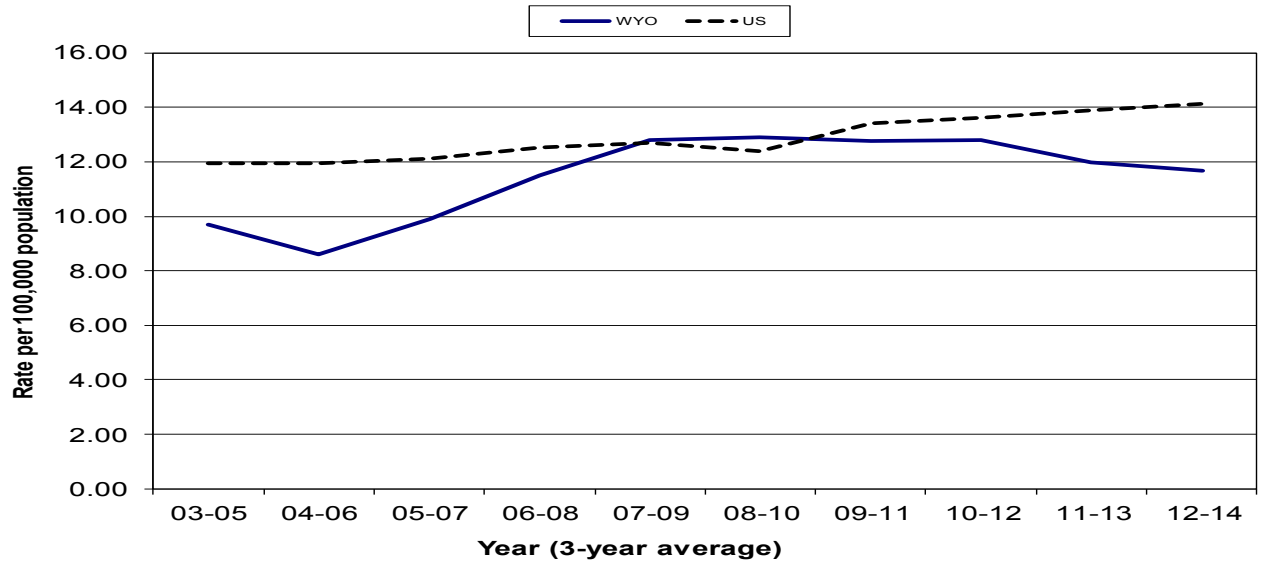


The incidence rates for leukemia in Wyoming for males, females, and total population were all lower than the national rates. The mortality rates for females and total population were higher than the national rates in 2013, while the rate for males was a bit lower. None of the differences were statistically significant.

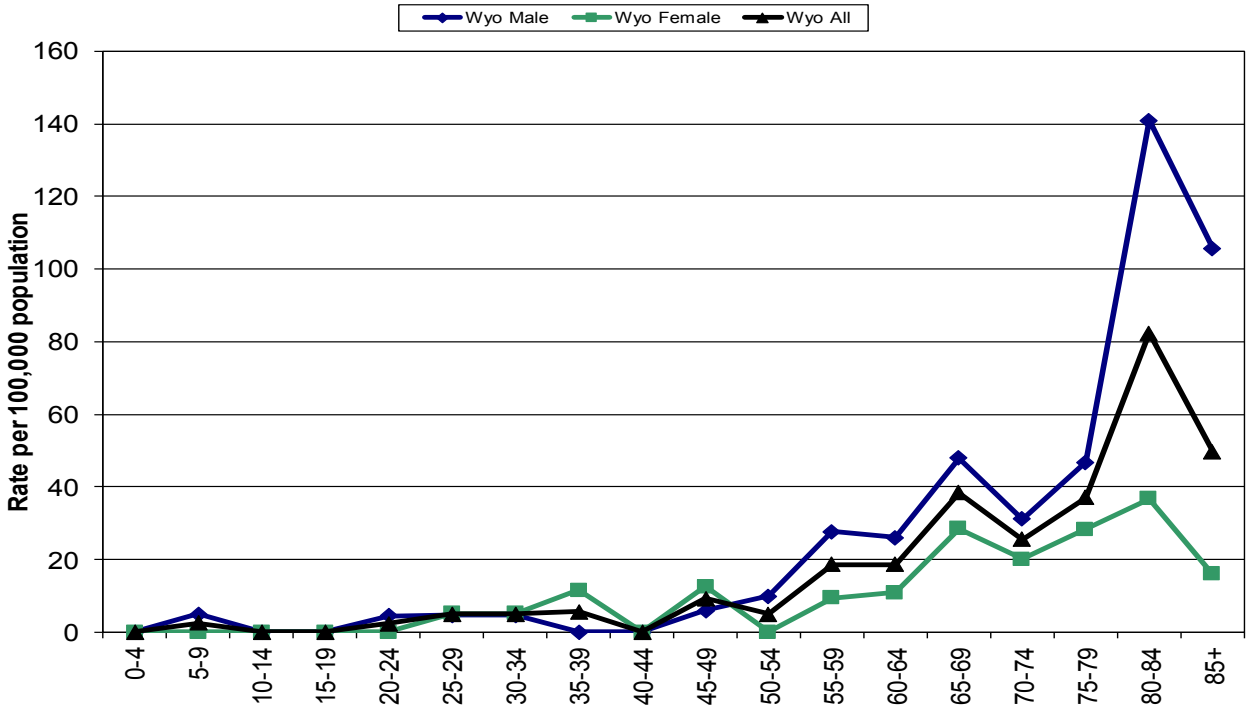
The incidence trend for Wyoming appears to be continuing a decrease that began in 2010-12, while the national rate continues to increase.

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

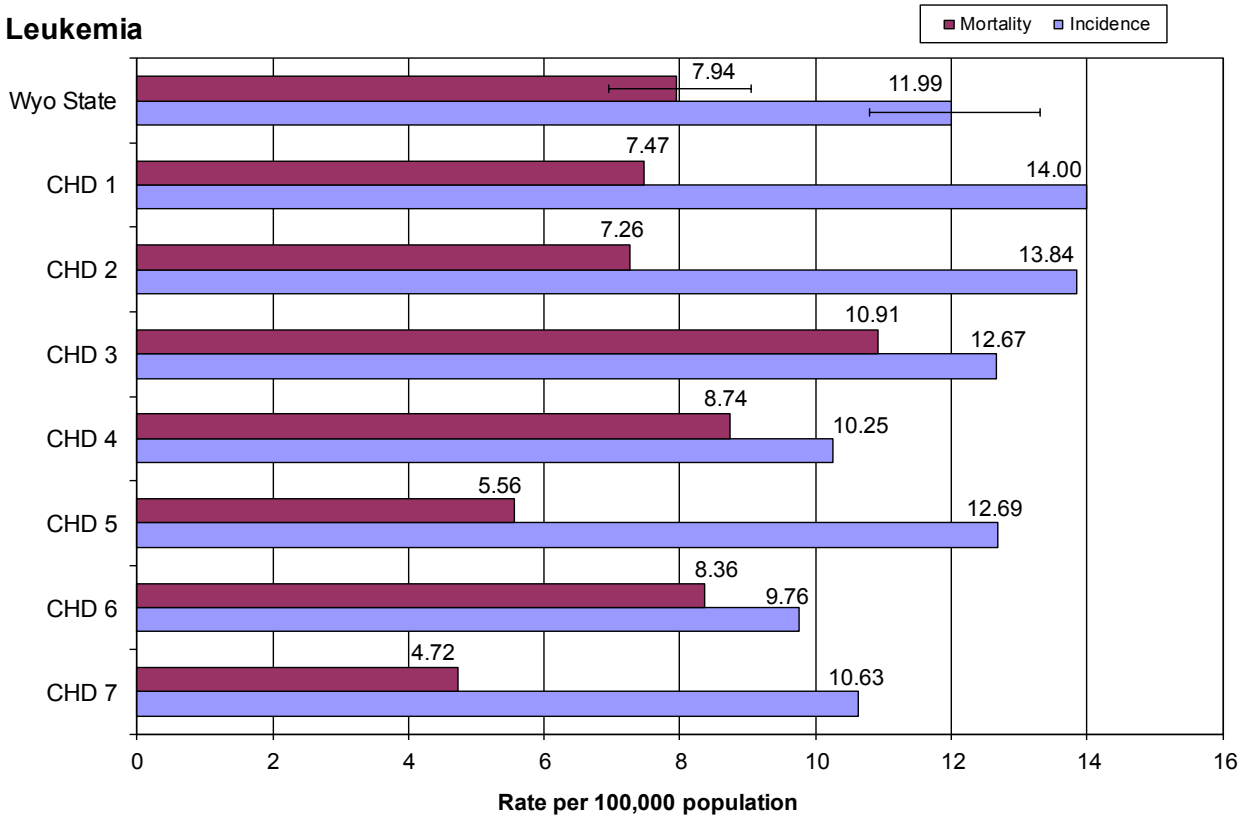
12-Year Incidence Trend



Age-Specific Incidence Rates - 2014



Cancer Health District Incidence and Mortality
5-Year Average, 2010-2014



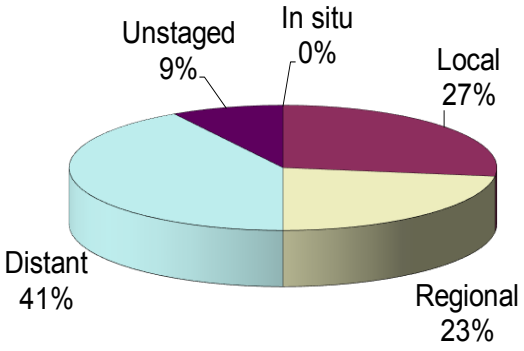
Lung and Bronchus

Incidence and Mortality Summary

	Male	Female	Total
Invasive Cases	143	151	294
WY Incidence	45.4*	43.6	43.8
US Incidence	63.0	49.9	55.5
Cancer Deaths	99	113	212
WY Mortality	30.0*	33.7	31.9
US Mortality	53.9	36.6	44.1

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



Lung cancer incidence and mortality rates in Wyoming males, females, and total population were all lower than the national rates in 2014, with only the differences in males being statistically significant.

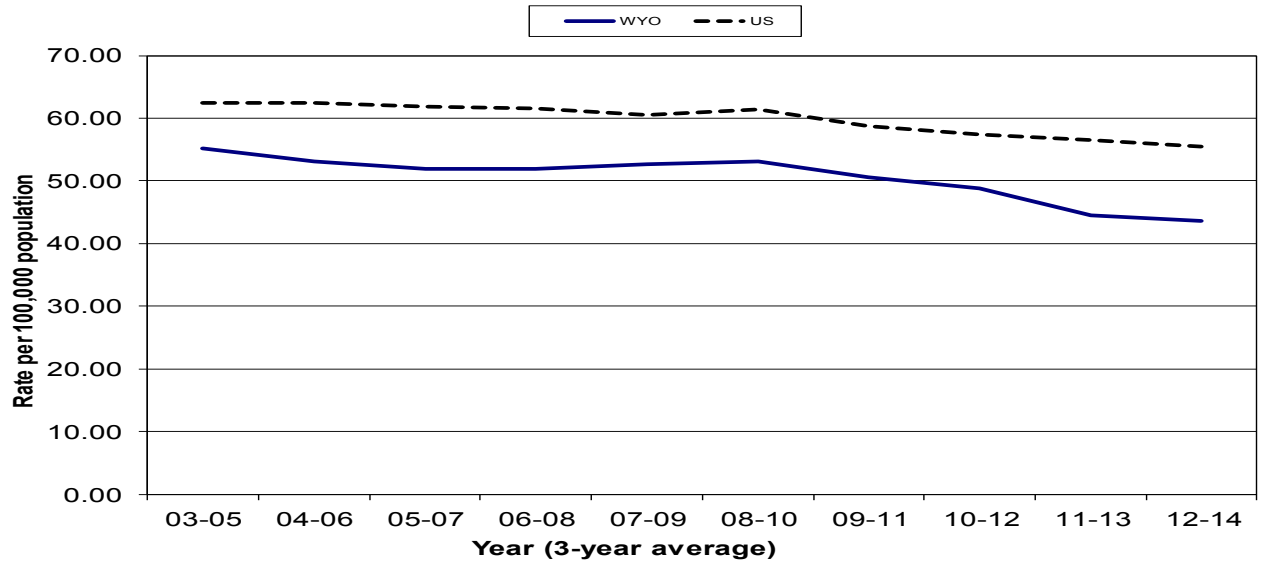
For only the second time since 1980, more Wyoming females were diagnosed with lung cancer than males.

The 12 year incidence trend showed the rates for lung cancer show a continued decrease in Wyoming and the U.S. from 10-12.

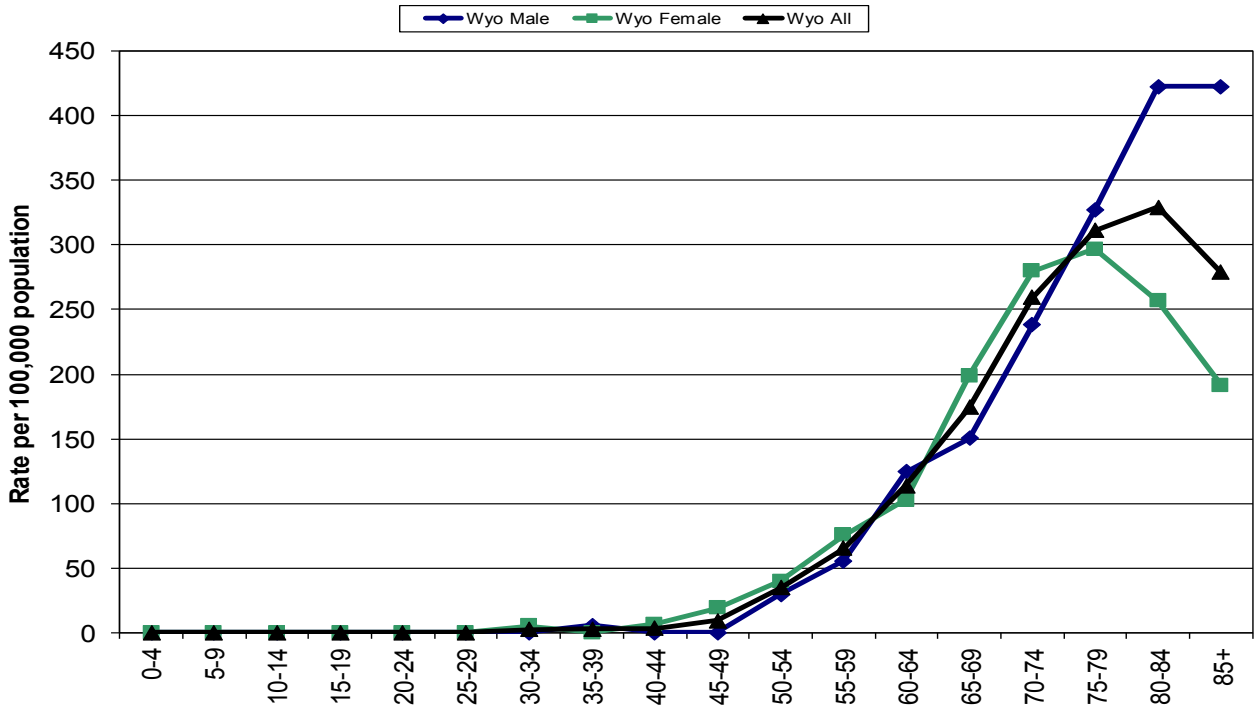
A higher percentage of cases were diagnosed as Regional in 2014 than 2013 (17%), but this difference was not statistically significant.

No statistically significant differences were found between the CHD rates and the state rates.

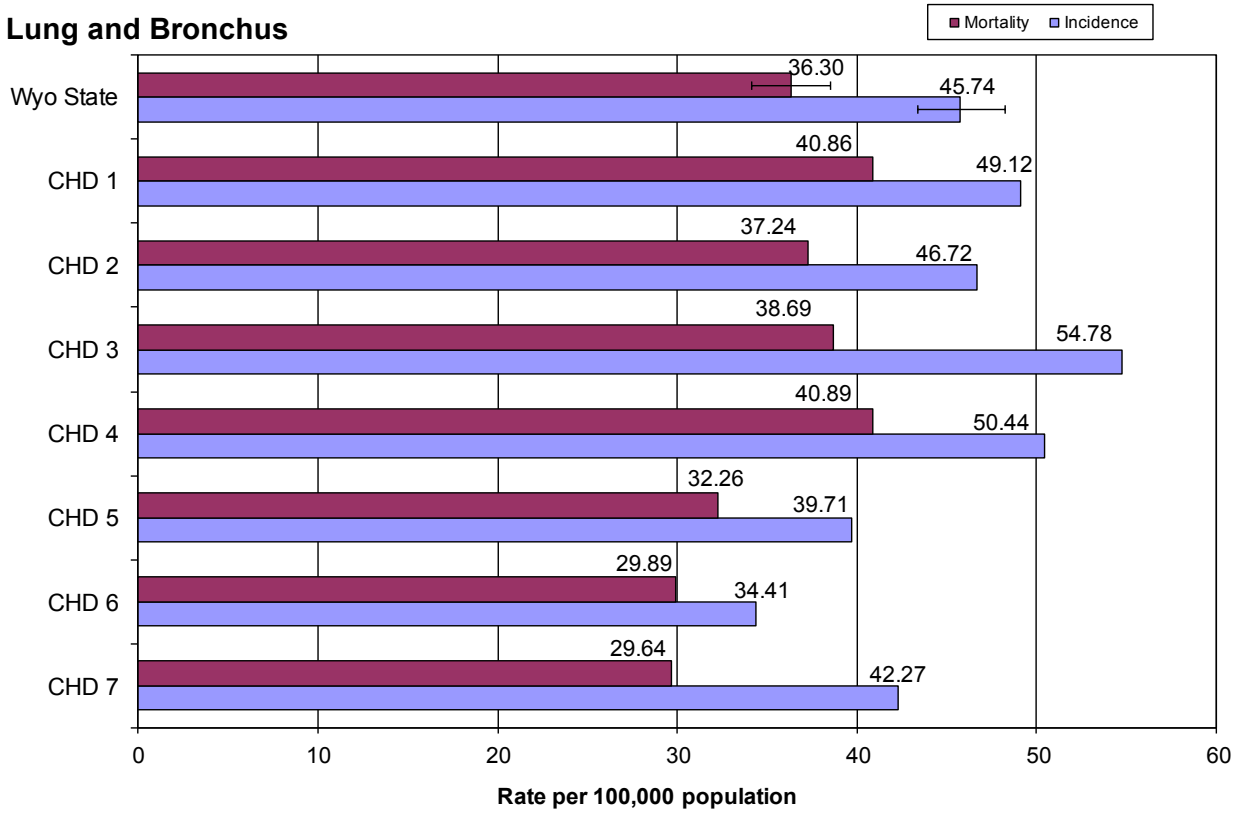
12-Year Incidence Trend



Age-Specific Incidence Rates - 2014



Cancer Health District Incidence and Mortality
5-Year Average, 2010-2014



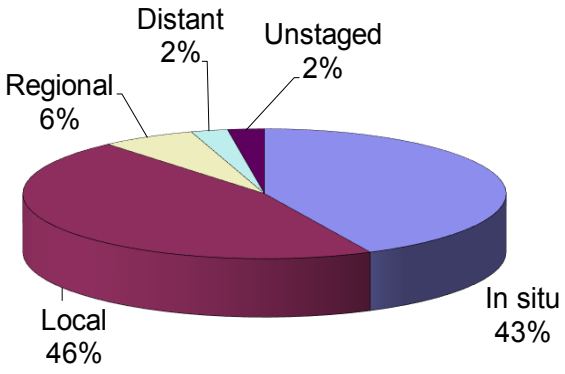
Melanoma (of the skin)

Incidence and Mortality Summary

	Male	Female	Total
Invasive Cases	103	60	163
In situ Cases	66	56	122
WY Incidence	32.0	19.7	25.1
US Incidence	34.5	20.6	26.5
Cancer Deaths	16	5	21
WY Mortality	5.6	1.2	3.2
US Mortality	4.6	1.9	3.1

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



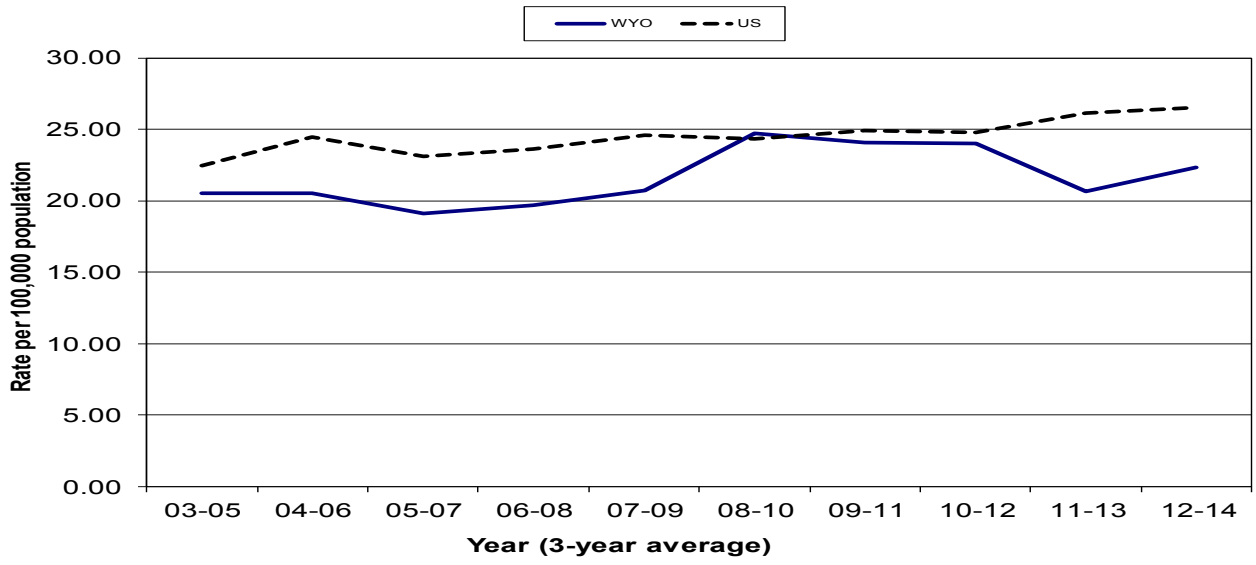
The incidence rates for melanoma of the skin for Wyoming males, females, and total population were all lower than the national rates in 2014. The mortality rates for males and total population were higher than the national rates, while the female mortality rate was lower. None of the differences were statistically significant. **There were five cases of melanoma in individuals under 30 years of age in 2014.**

The incidence of melanoma increased from 2011-13 to 2012-14 in Wyoming , while the national trend continues to climb.

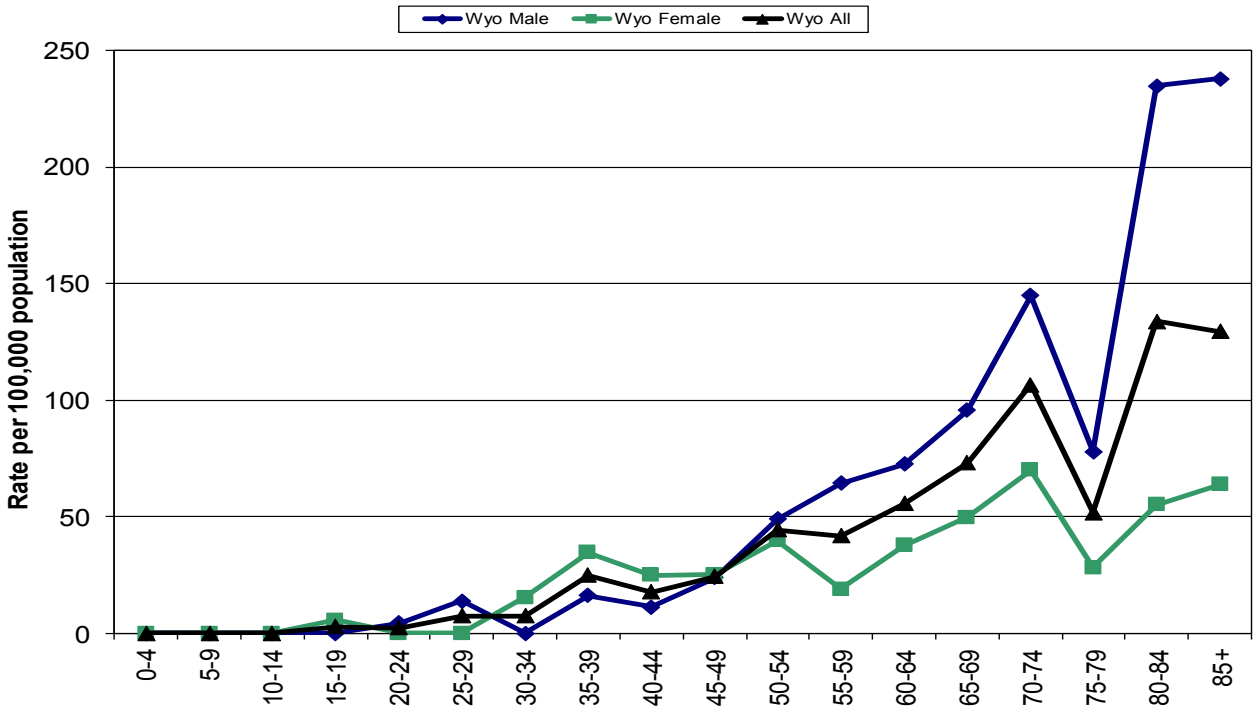
The percent of cases diagnosed as In situ decreased from 2013 (55%) while the percent diagnosed as Local increased (34% in 2013).

No statistically significant differences were found between the CHD and state rates.

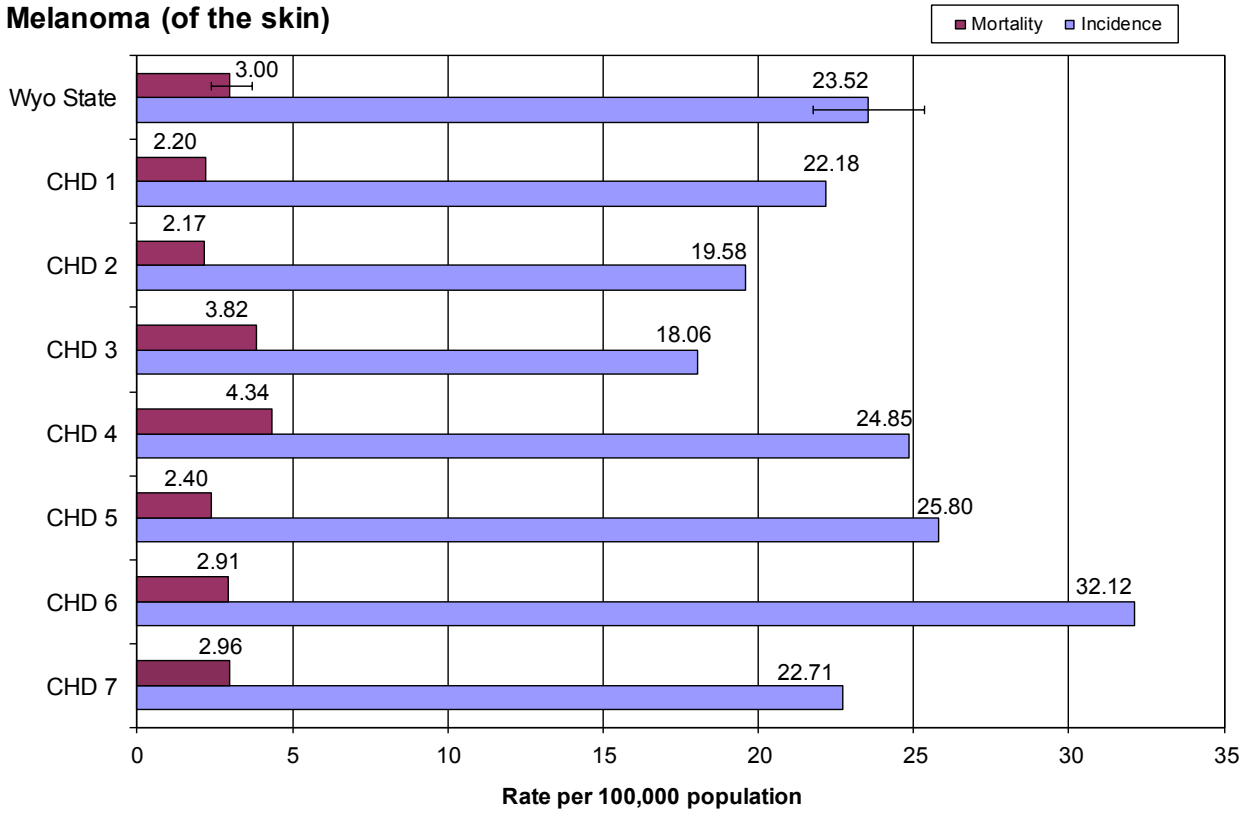
12-Year Incidence Trend



Age-Specific Incidence Rates - 2014



Cancer Health District Incidence and Mortality
5-Year Average, 2010-2014



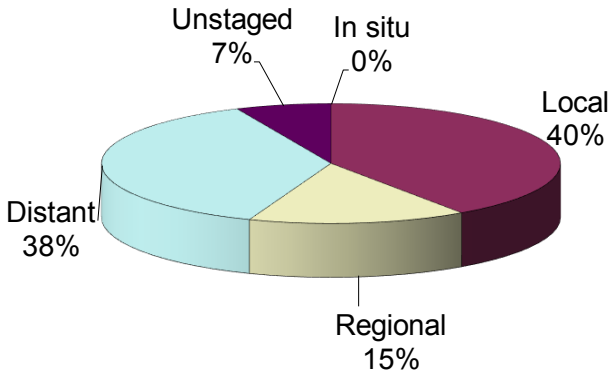
Non-Hodgkin Lymphoma

Incidence and Mortality Summary

	Male	Female	Total
Invasive Cases	65	39	104
WY Incidence	19.8	11.6	15.8
US Incidence	24.2	16.2	19.8
Cancer Deaths	24	15	39
WY Mortality	7.8	4.2	6.0
US Mortality	7.7	4.6	5.9

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



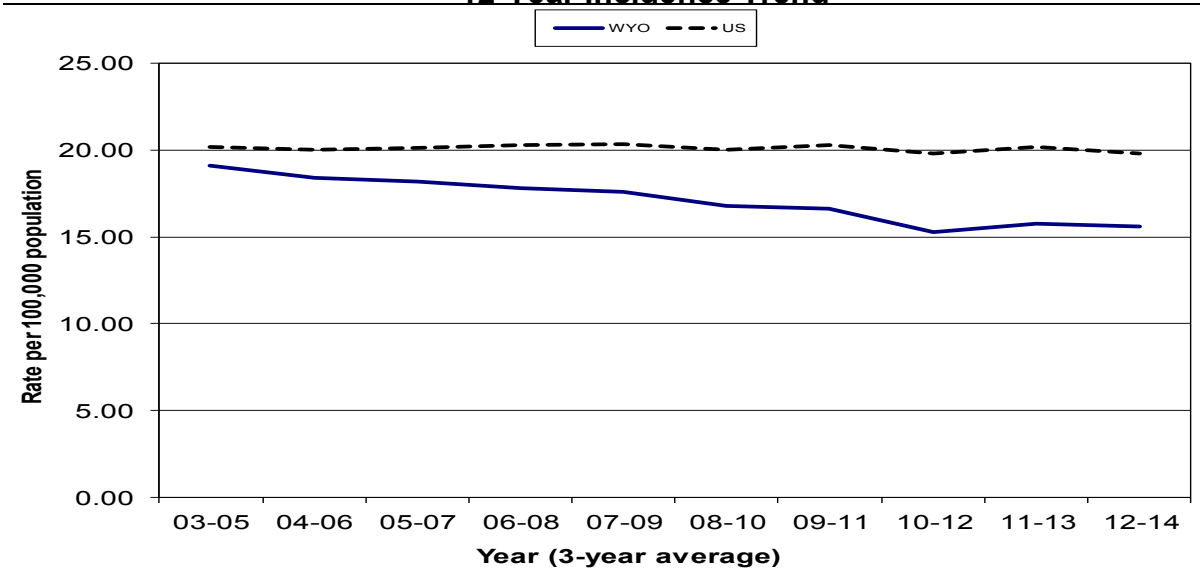
The incidence rates for Non-Hodgkin lymphoma in males, females, and total population in Wyoming were all lower than the national rates. The mortality rates for females was lower than the national rate, while the rates for males and total population were basically the same as the national rates. None of the differences were statistically significant.

The incidence trend for Wyoming and the nation remained flat between 2011-13 and 2012-14.

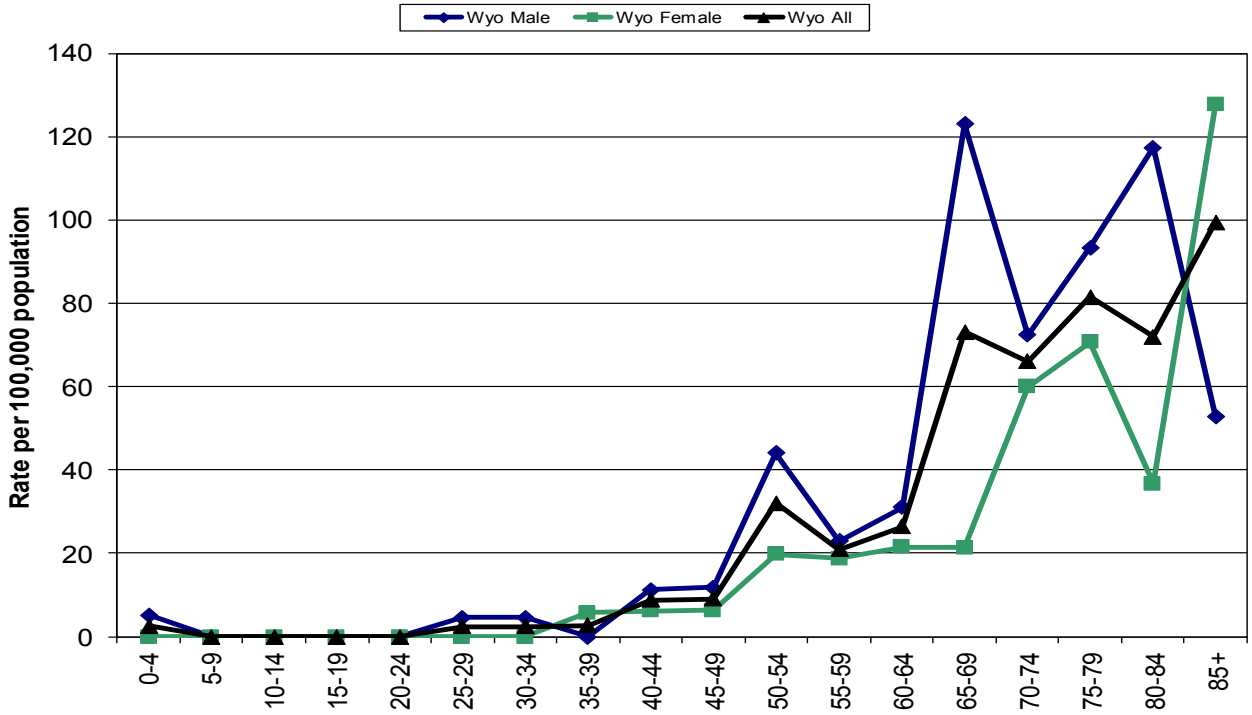
The percentage of cases diagnosed as Regional was higher than in 2013 (9%) while those diagnosed as distant were lower (42% in 2013). Neither change was statistically significant.

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

12-Year Incidence Trend

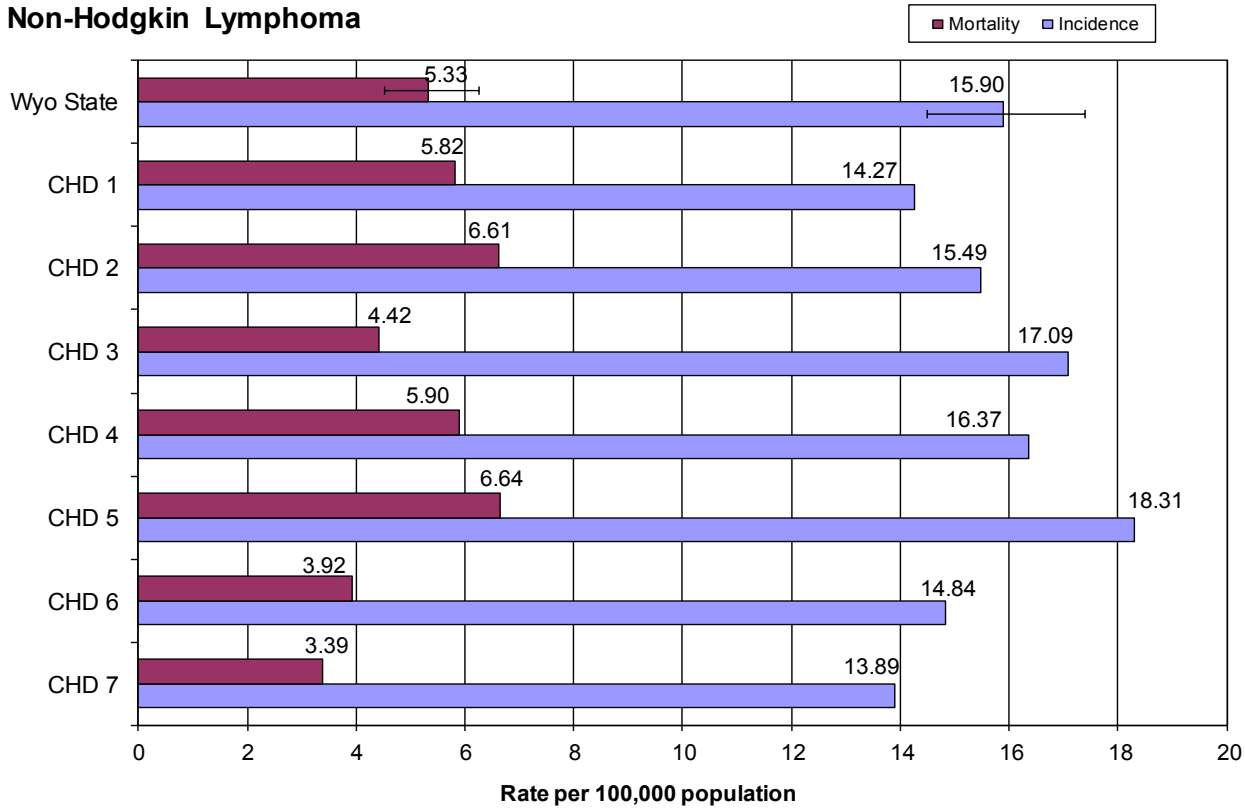


Age-Specific Incidence Rates - 2014



Cancer Health District Incidence and Mortality
5-Year Average, 2010-2014

Non-Hodgkin Lymphoma



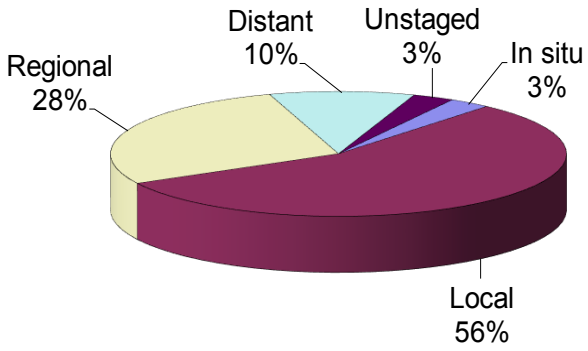
Oral Cavity and Pharynx

Incidence and Mortality Summary

	Male	Female	Total
Invasive Cases	44	22	66
WY Incidence	12.9	7.1	10.0
US Incidence	17.9	6.4	11.8
Cancer Deaths	13	3	16
WY Mortality	4.5	NC	2.7
US Mortality	3.7	1.3	2.4

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



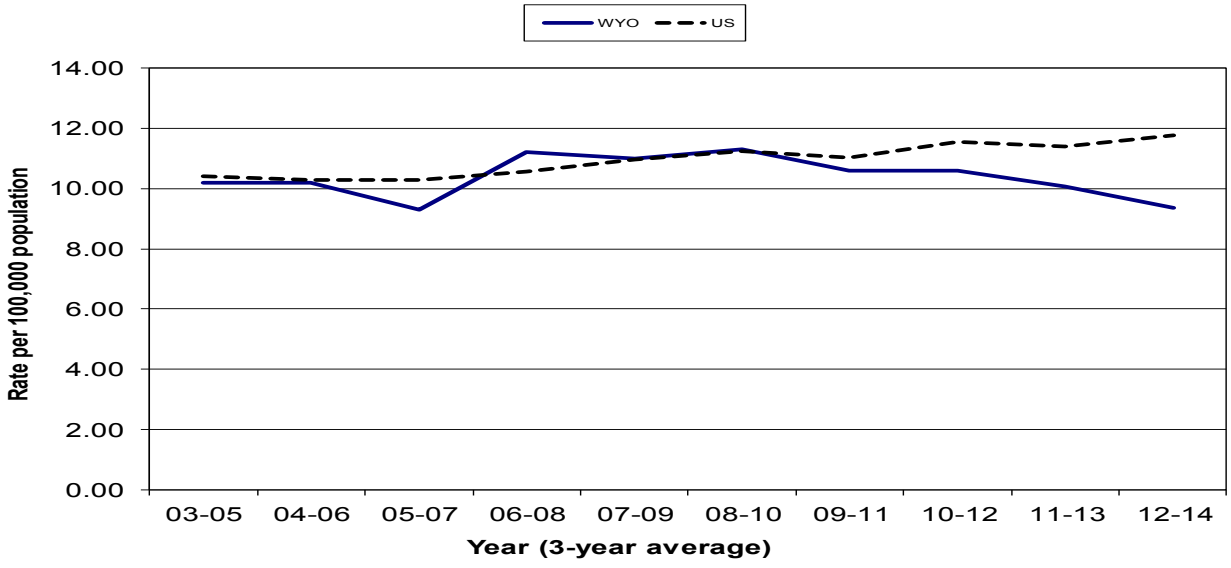
Incidence rates for cancer of the oral cavity and pharynx in Wyoming males, and total population were lower than the national rates, while the female rate was a bit higher than the national rate. The mortality rates for males and an total population were both higher, though not significantly. The female mortality rate was not calculated due to low numbers.

The incidence trend for Wyoming shows a continuation of the decrease that started in 2010-12. On the other had, the national rate increased from 2011-13 to 2012-14.

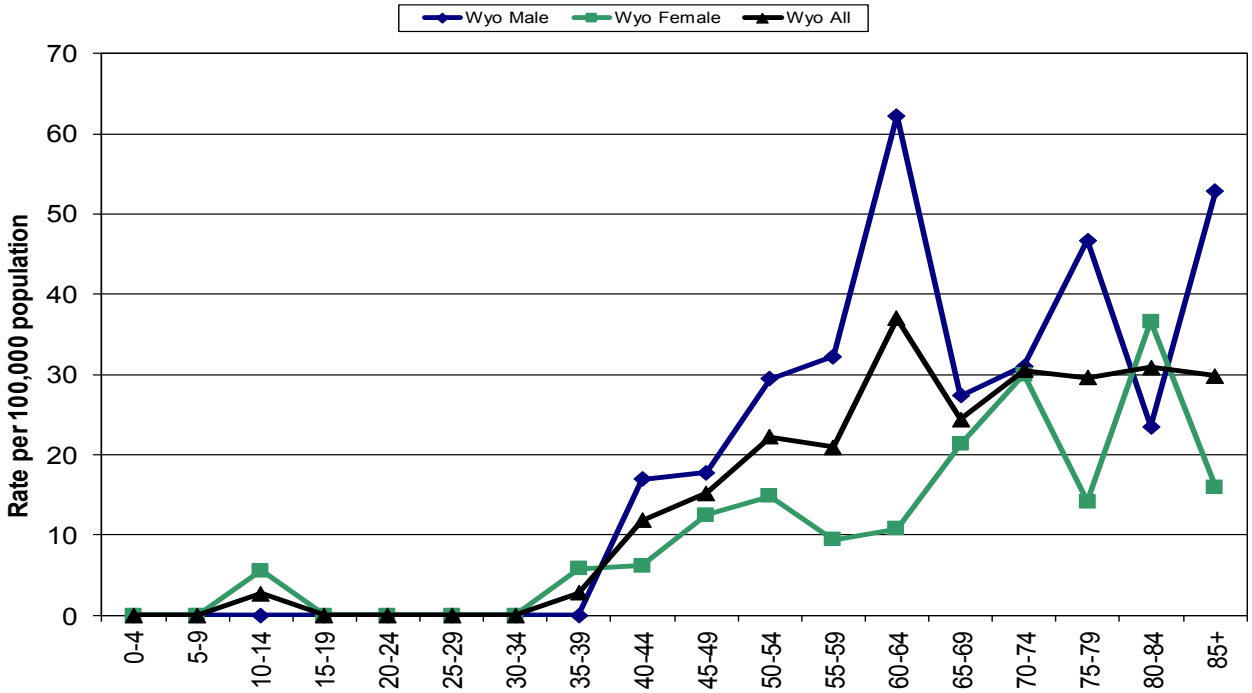
The percent of cancers diagnosed at the local increased significantly from 2013 (37%) while distant and regional both decreased (39% and 14% respectively in 2013).

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

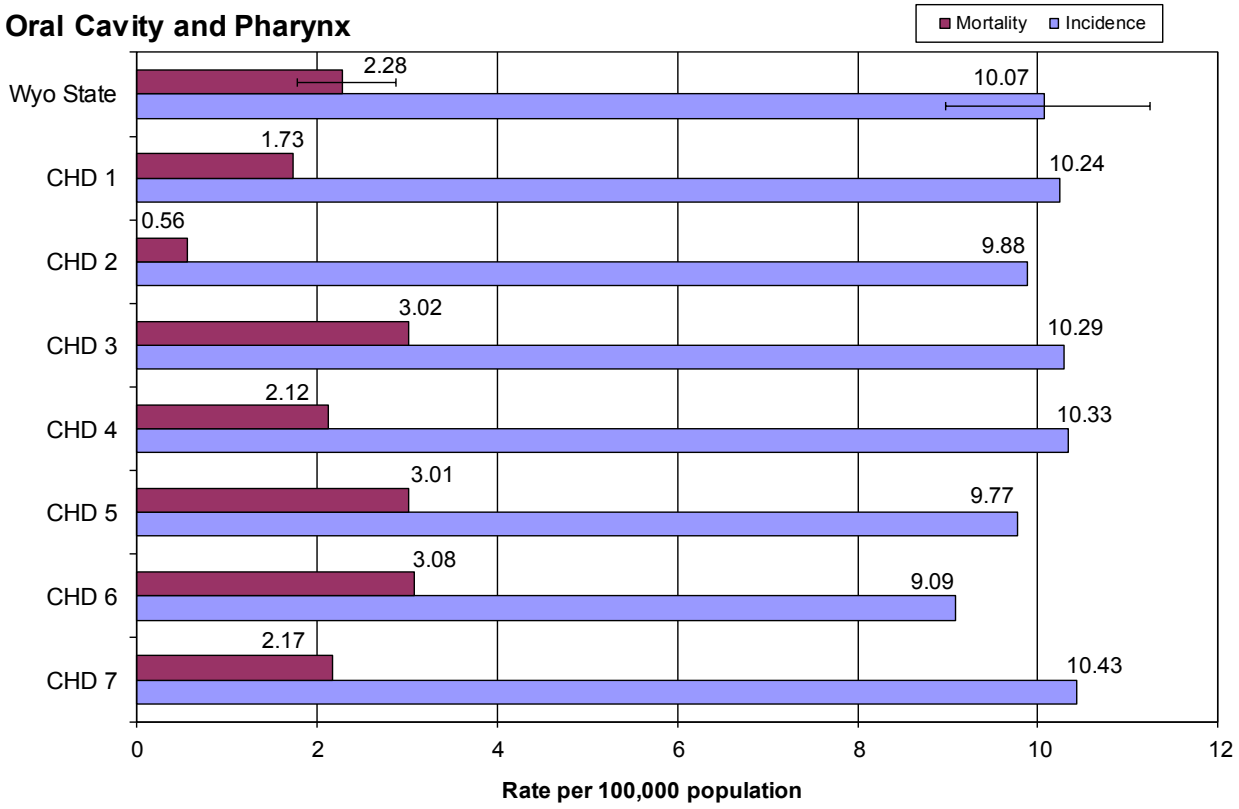
12-Year Incidence Trend



Age-Specific Incidence Rates - 2014



Cancer Health District Incidence and Mortality
5-Year Average, 2010-2014



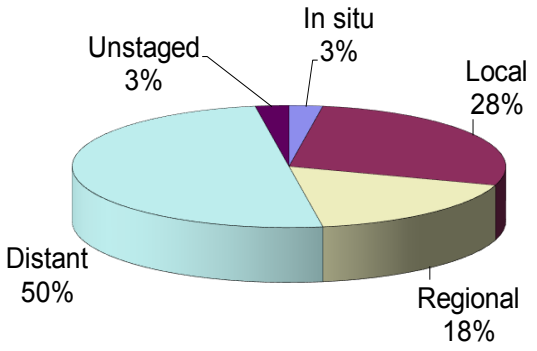
Ovary

Incidence and Mortality Summary

	Female
Invasive Cases	39
WY Incidence	12.1
US Incidence	11.7
Cancer Deaths	25
WY Mortality	7.6
US Mortality	7.5

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



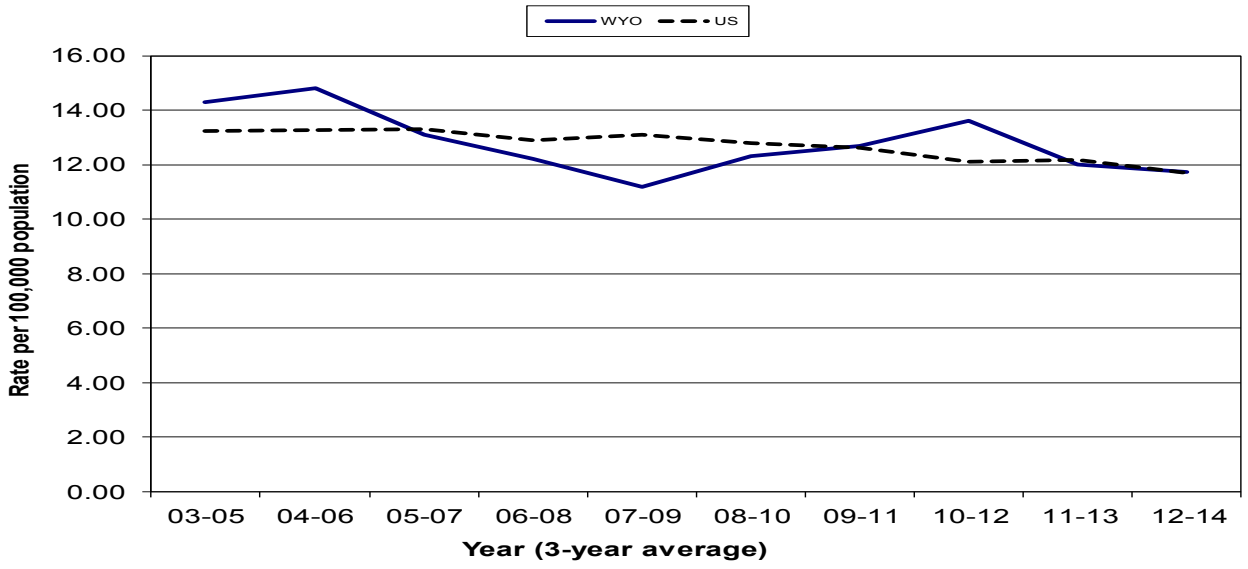
The incidence and mortality rate in Wyoming females for ovarian cancer were both slightly higher than the national rate in 2014; however, neither difference was statistically significant.

The 12-year incidence trend for both Wyoming and the national appeared level from 2011-13 to 2012-14.

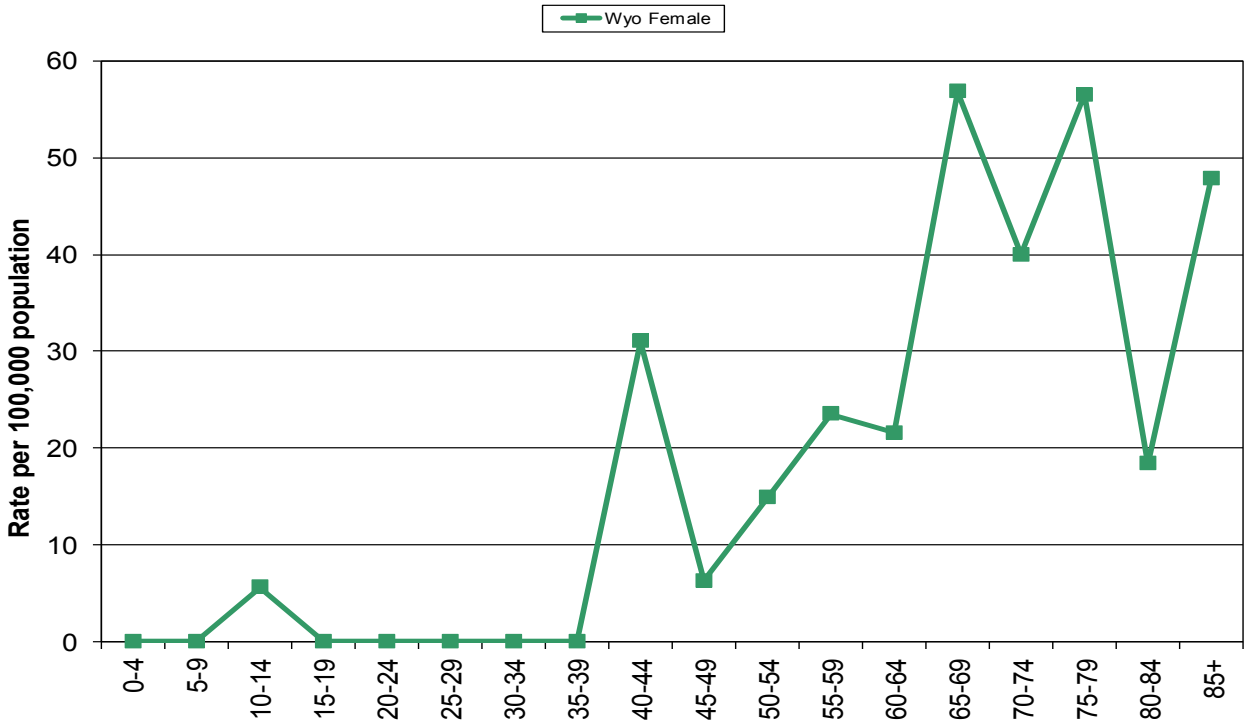
There was significant decrease in the percentage of cancers diagnosed at the regional stage from 2013 (30%) with a concurrent significant increase in the percent diagnosed at the local stage (11% in 2013).

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

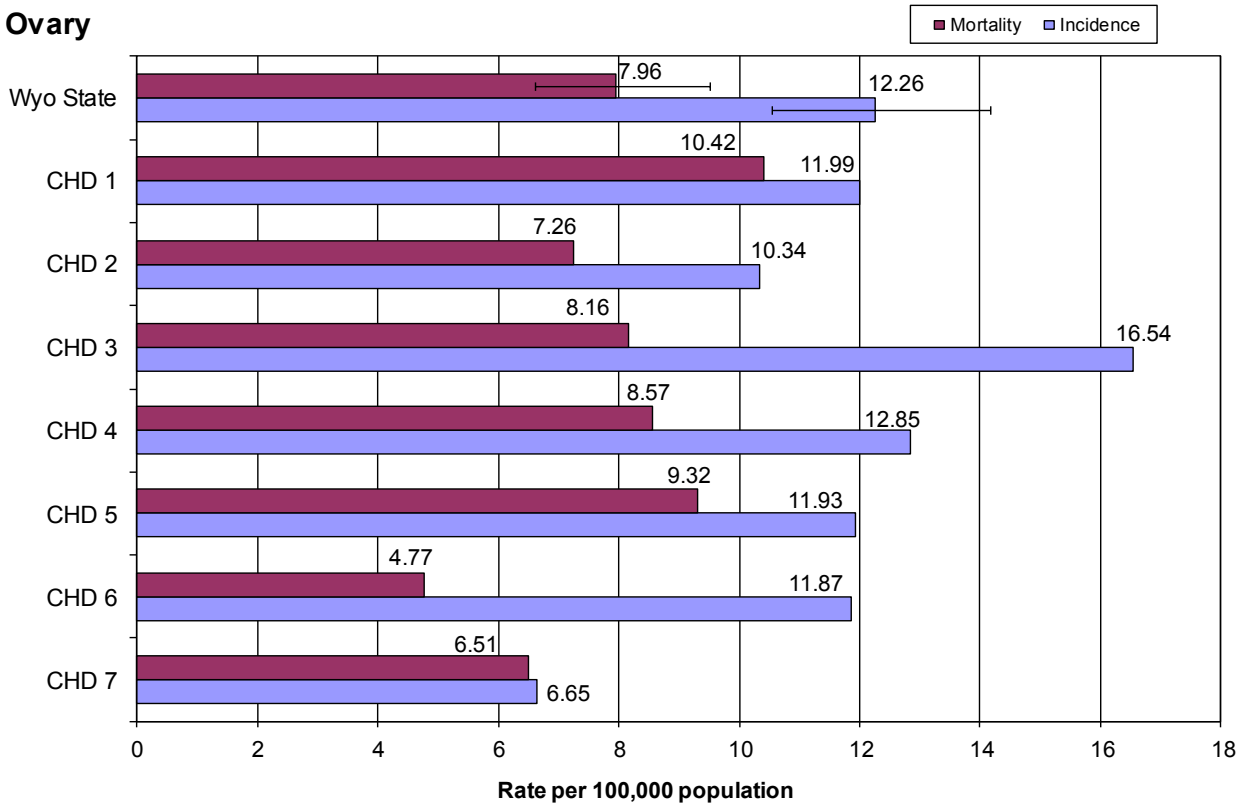
12-Year Incidence Trend



Age-Specific Incidence Rates - 2014



Cancer Health District Incidence and Mortality
5-Year Average, 2010-2014



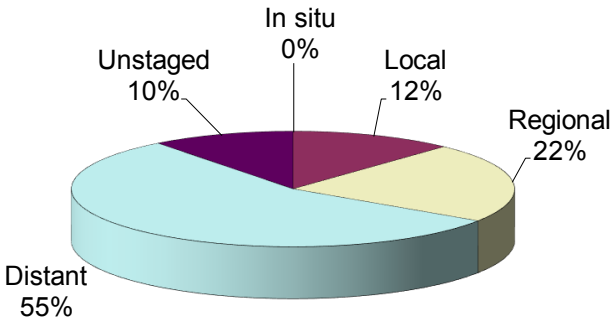
Pancreas

Incidence and Mortality Summary

	Male	Female	Total
Invasive Cases	34	33	67
WY Incidence	10.9	8.8	10.0
US Incidence	14.1	11.0	12.4
Cancer Deaths	37	31	68
WY Mortality	11.8	8.3	10.1
US Mortality	12.4	9.3	10.7

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



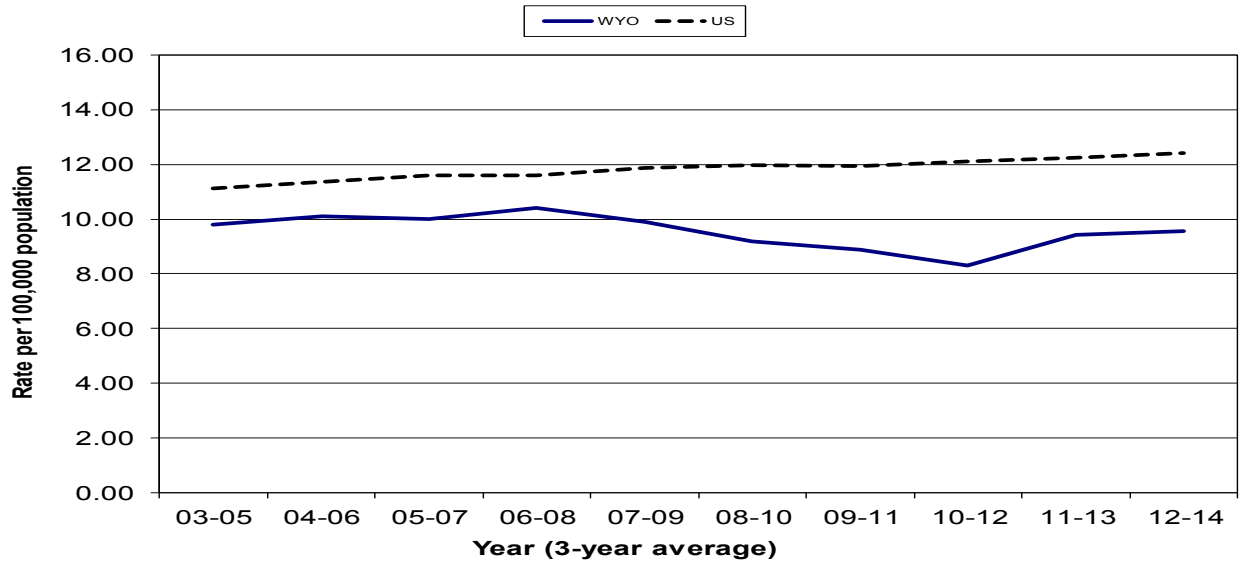
The incidence and mortality rates of cancer of the pancreas in Wyoming males, females and total population were all lower than the national rates. None of the differences were statistically significant.

The incidence trend for Wyoming shows a leveling-off between 2011-13 and 2012-14, while the national rate shows a continued increase.

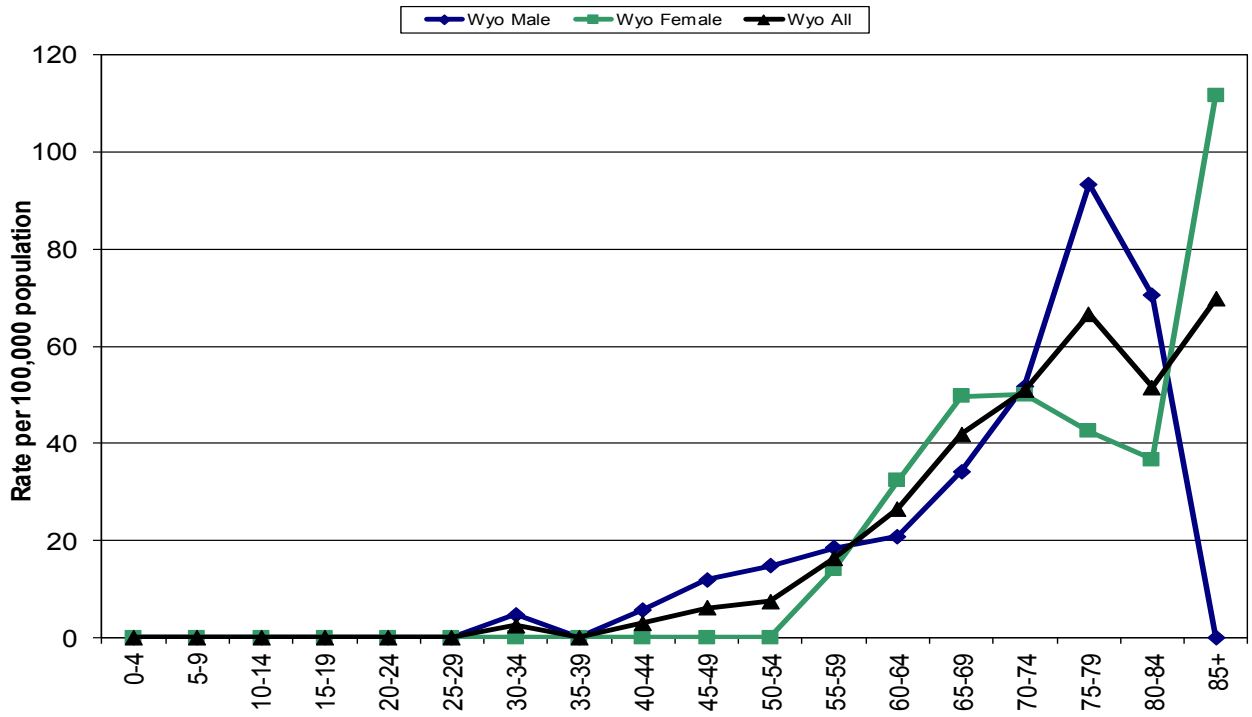
The percentage of cancer diagnosed as Distant was up from 2013 (47%) while the percent diagnosed as regional was down (30% in 2013). Neither difference was statistically significant.

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

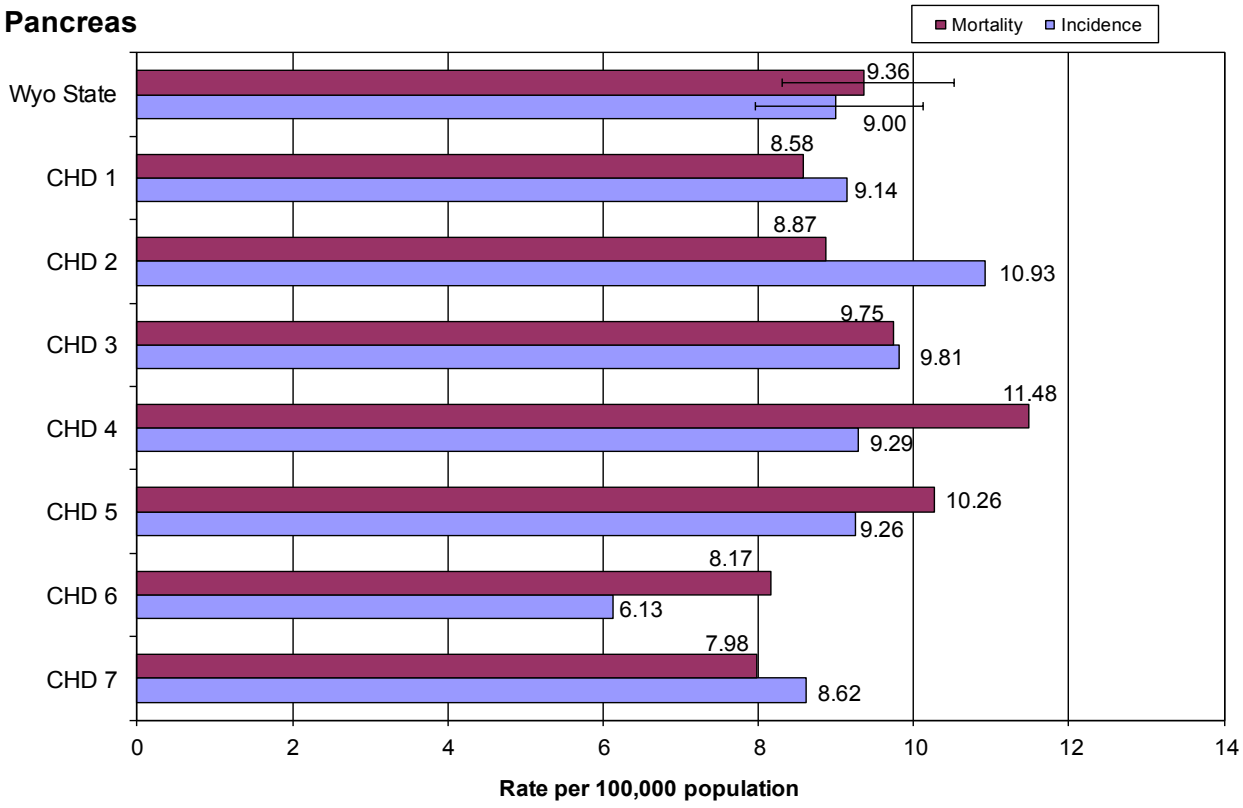
12-Year Incidence Trend



Age-Specific Incidence Rates - 2014



Cancer Health District Incidence and Mortality
5-Year Average, 2010-2014



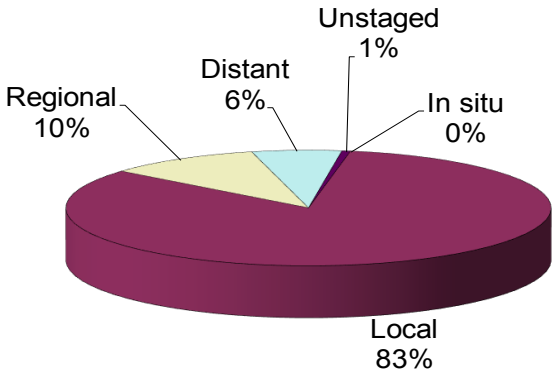
Prostate

Incidence and Mortality Summary

	Male
Invasive Cases	351
WY Incidence	97.9
US Incidence	99.0
Cancer Deaths	44
WY Mortality	15.5
US Mortality	18.0

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



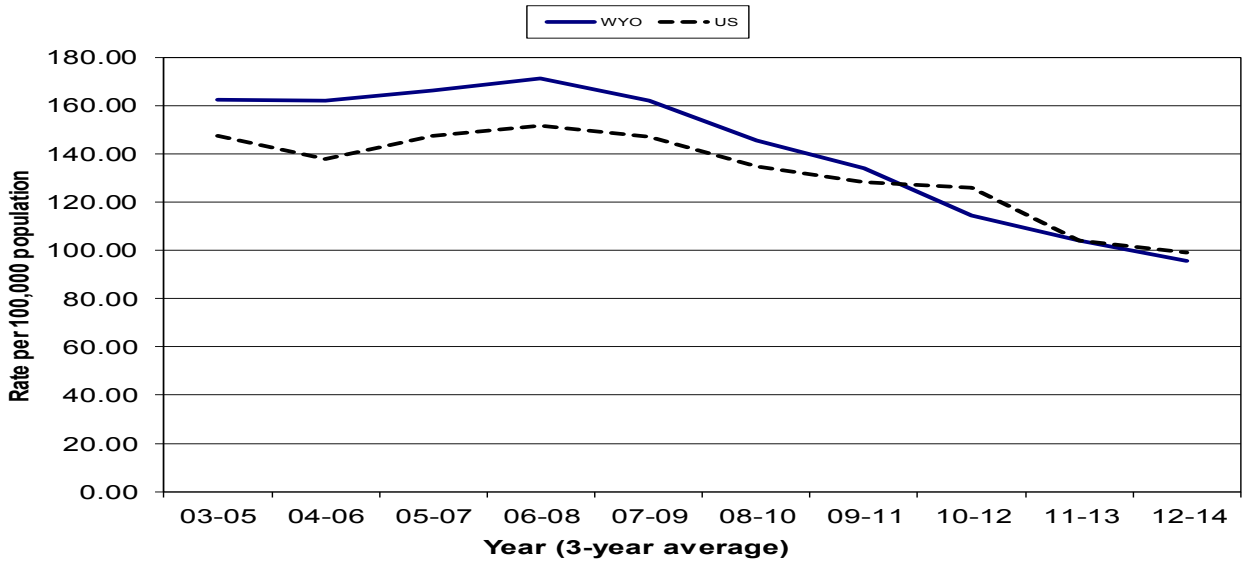
The incidence and mortality rates for prostate cancer in Wyoming males were both lower than the national rate; however, neither difference was statistically significant.

The incidence rate for both Wyoming and the U.S. show a continued decrease from 2006-08.

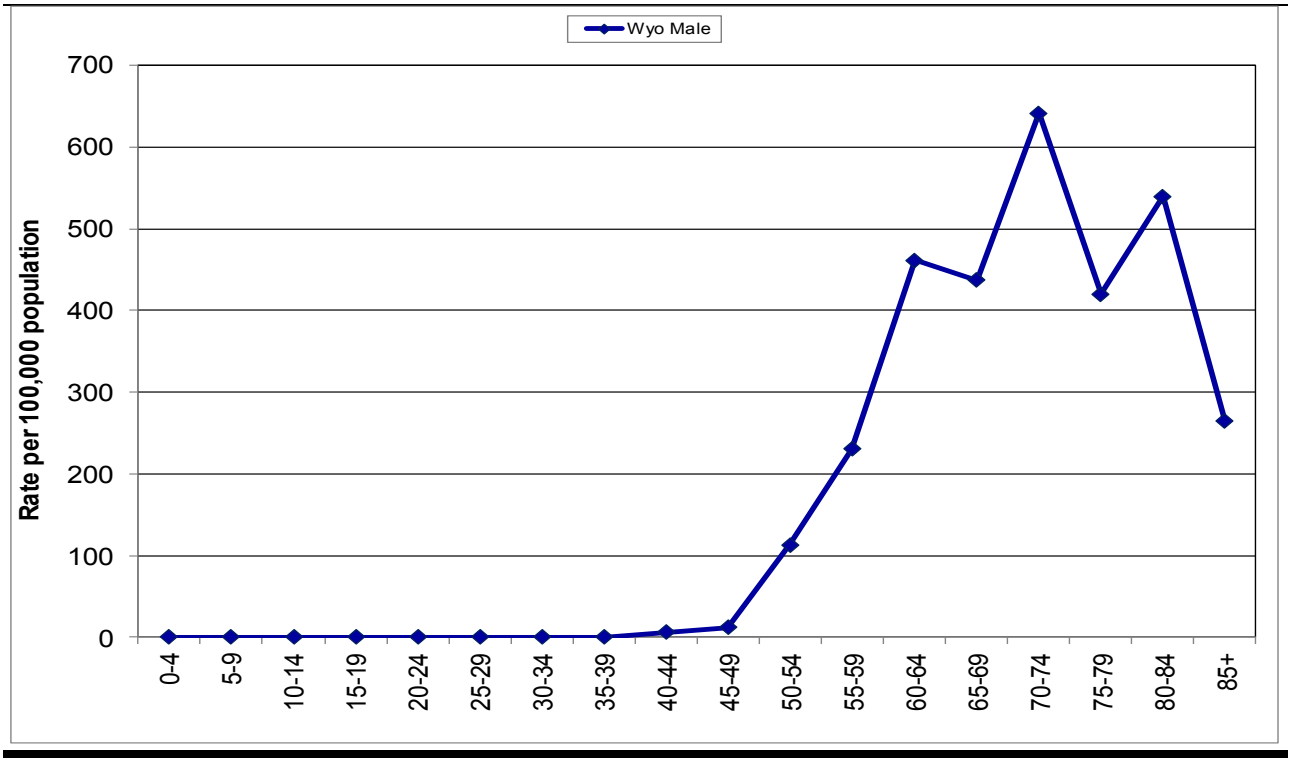
The percent of cases diagnosed at each stage in 2013 were basically the same as those from 2012.

The incidence of prostate cancer in CHD 5 was significantly higher than the state rate of 107.49 in 2014. No other significant differences in incidence or mortality between the state and CHD rates were found.

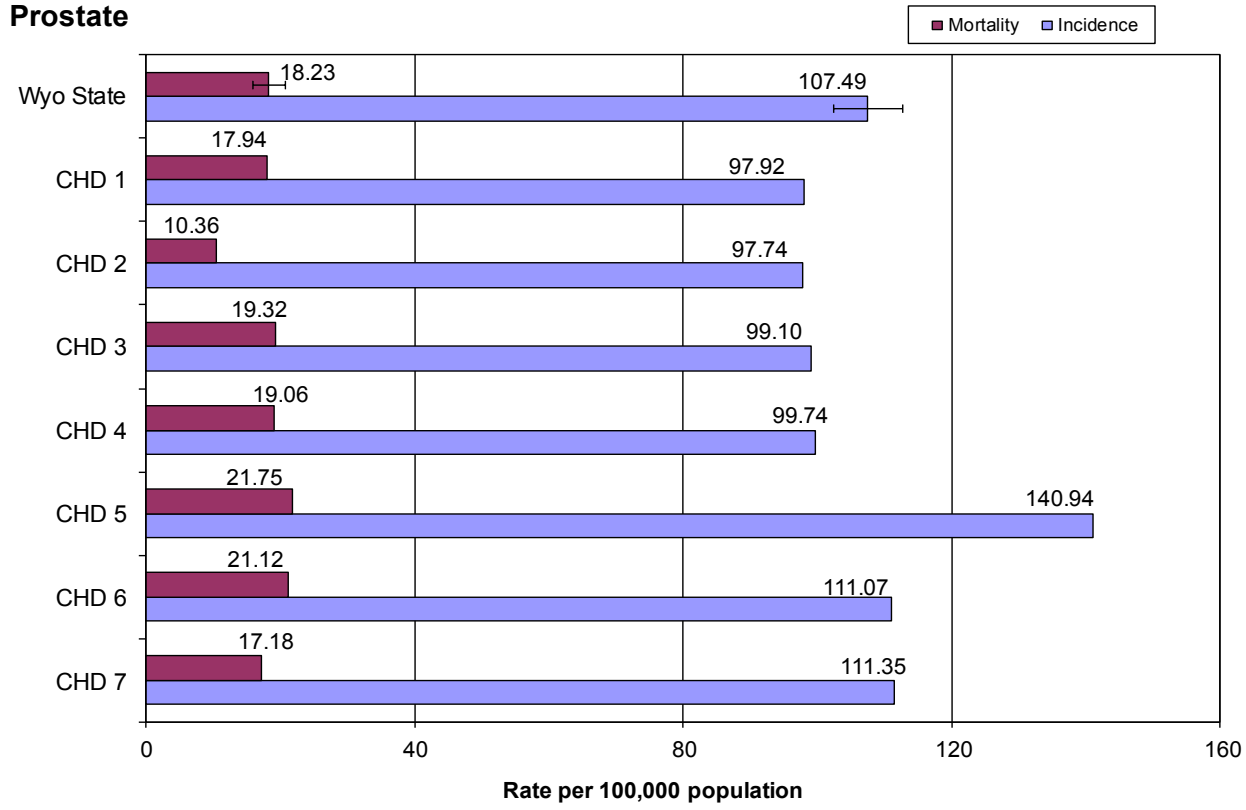
12-Year Incidence Trend



Age-Specific Incidence Rates - 2014



Cancer Health District Incidence and Mortality
5-Year Average, 2010-2014



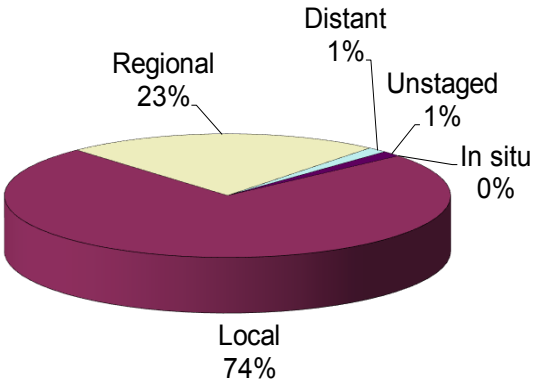
Thyroid

Incidence and Mortality Summary

	Male	Female	Total
Invasive Cases	23	47	70
WY Incidence	7.0	17.1	11.8
US Incidence	7.8	22.7	15.2
Cancer Deaths	3	2	5
WY Mortality	NC	NC	0.73
US Mortality	0.54	0.48	0.51

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



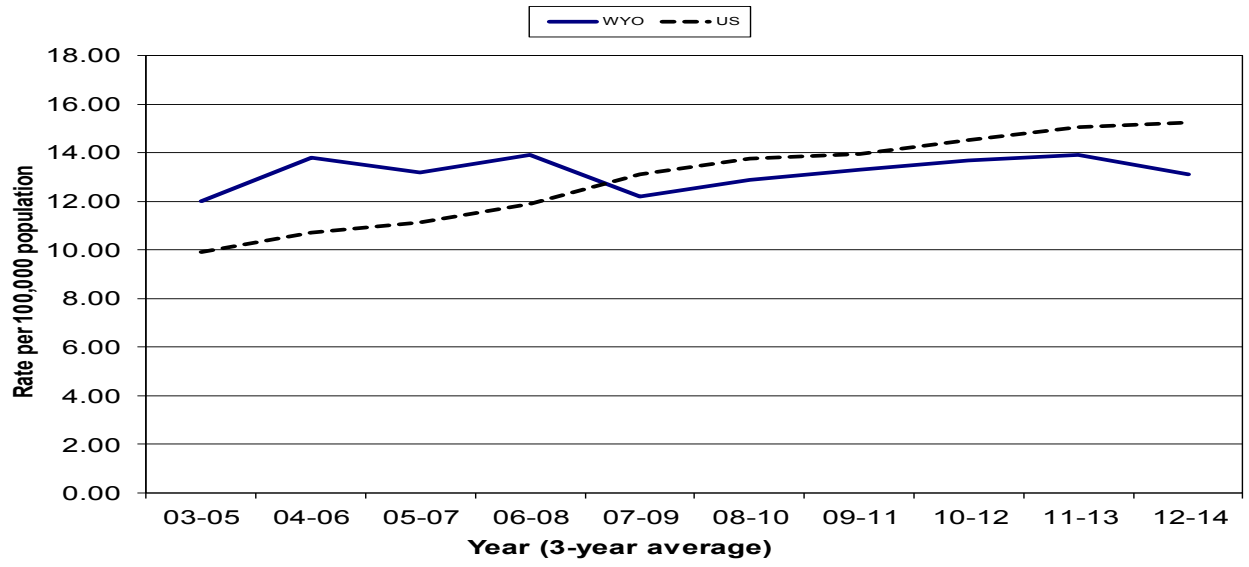
The incidence rate for thyroid cancer in Wyoming males, females and total population were all lower than the national rates. Only the rate for total mortality could be calculated due to low numbers, but this rate was slightly higher than the national rate. None of the differences were significant.

The trends for thyroid cancer in Wyoming decreased between 2011-13 and 2012-14, while the national rate continues to increase.

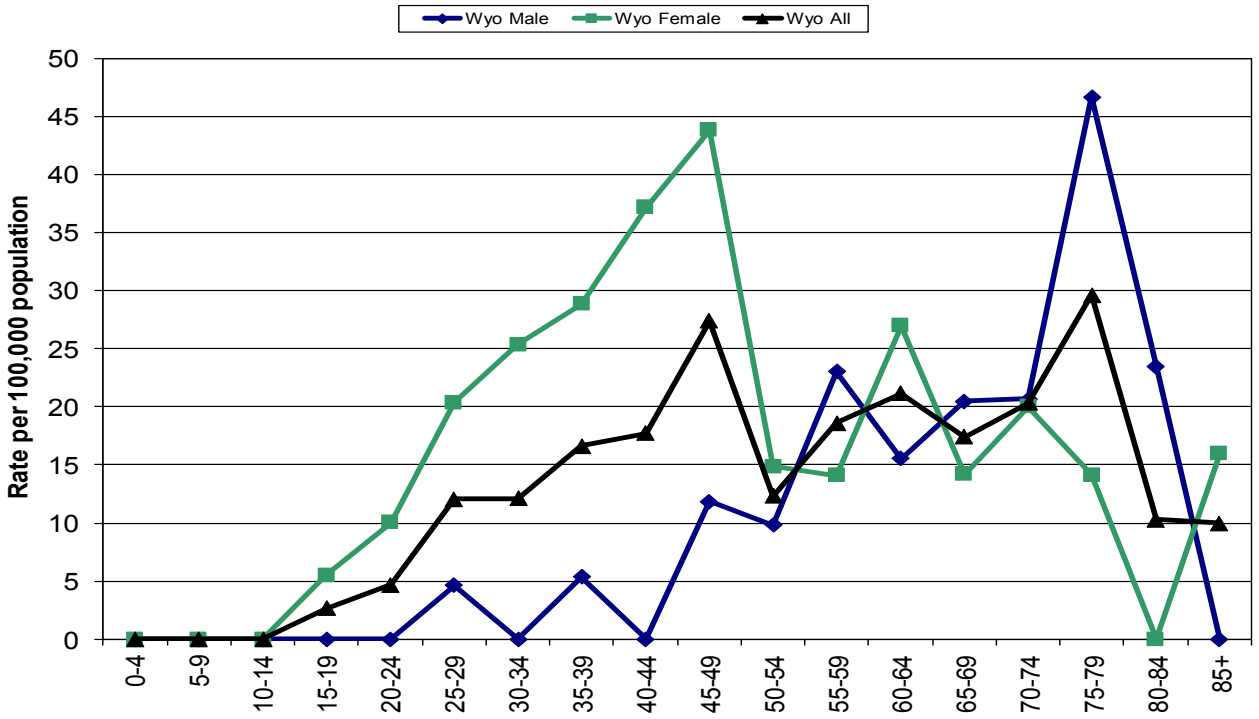
The percentages for each stage were essentially the same as those seen in 2013, with only the regional stage showing any real, but non-significant, change (18% in 2013).

No statistically significant differences were found between the CHD rates and state rate for incidence. No region reported more than 5 deaths due to thyroid cancer from 2010-2014.

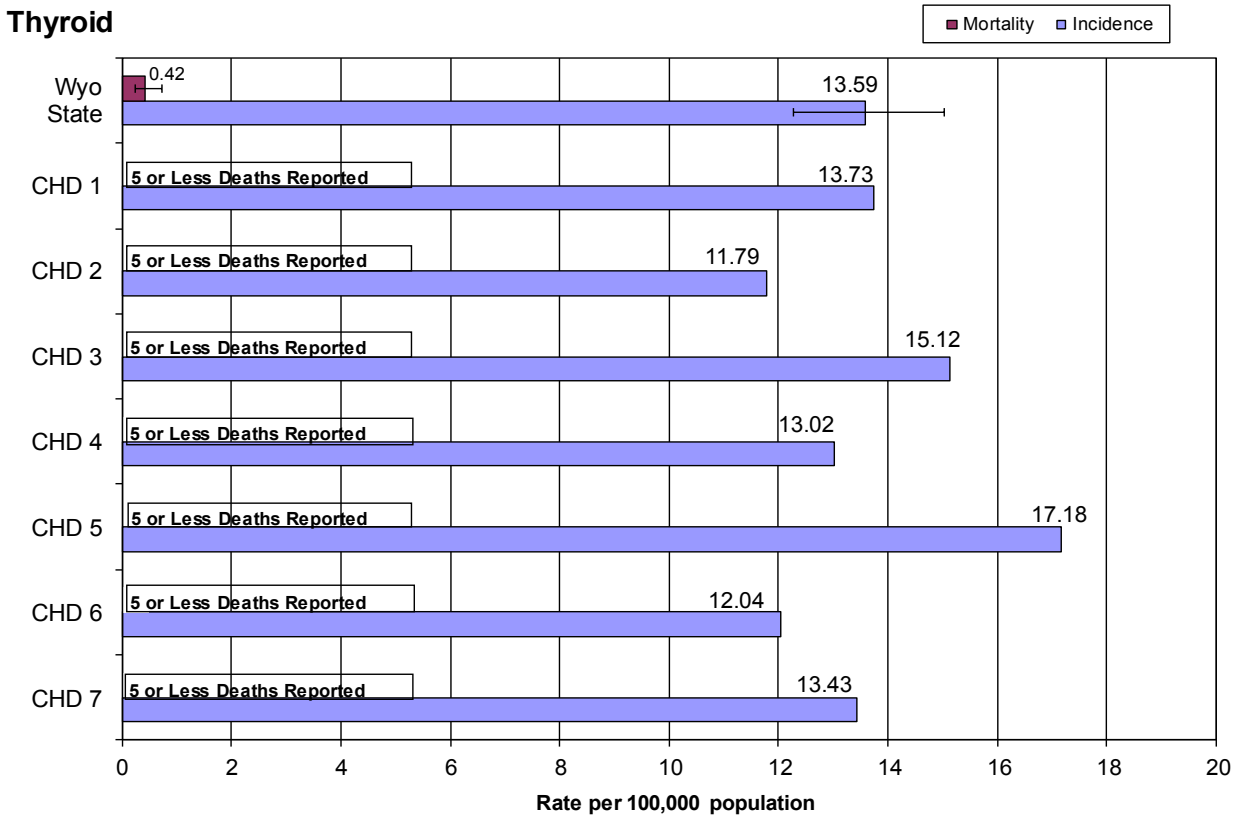
12-Year Incidence Trend



Age-Specific Incidence Rates - 2014



Cancer Health District Incidence and Mortality
5-Year Average, 2010-2014



Uterine

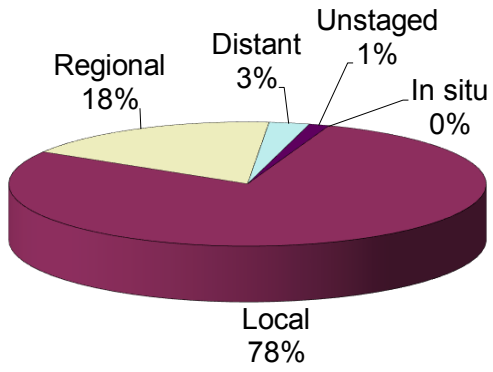
(Corpus Uteri + Uterus)

Incidence and Mortality Summary

	Female
Invasive Cases	74
WY Incidence	21.7
US Incidence	25.9
Cancer Deaths	20
WY Mortality	6.0
US Mortality	4.3

* indicates the state rate is significantly different than the national rate
NC = rate not calculated for under 5 cases/deaths

Stage at Diagnosis



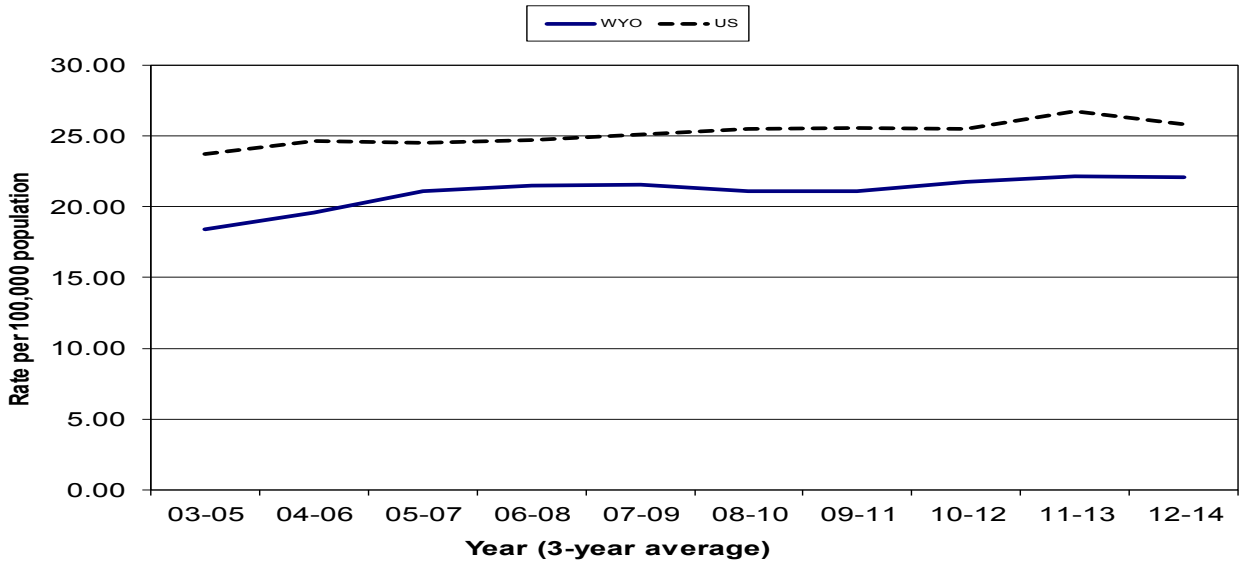
The incidence rate in Wyoming females for uterine cancer was lower than the U.S. rate, while the mortality was higher in 2014. Neither difference was significant.

The Wyoming incidence remained flat between 2011-13 and 2012-14 while the national trend shows a slight decrease.

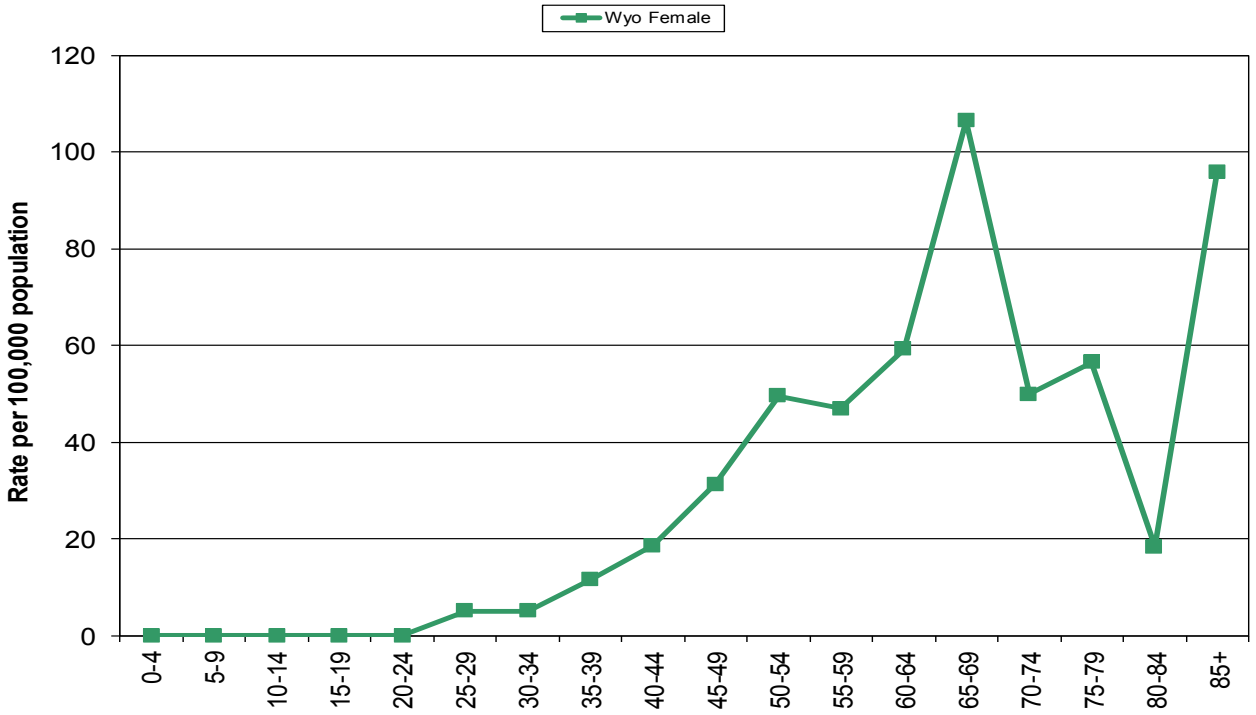
The percentage of cased diagnosed as Distant was significantly lower in 2014 than 2013 (9%).

No statistically significant differences were found between the CHD rates and the state rate for incidence or mortality.

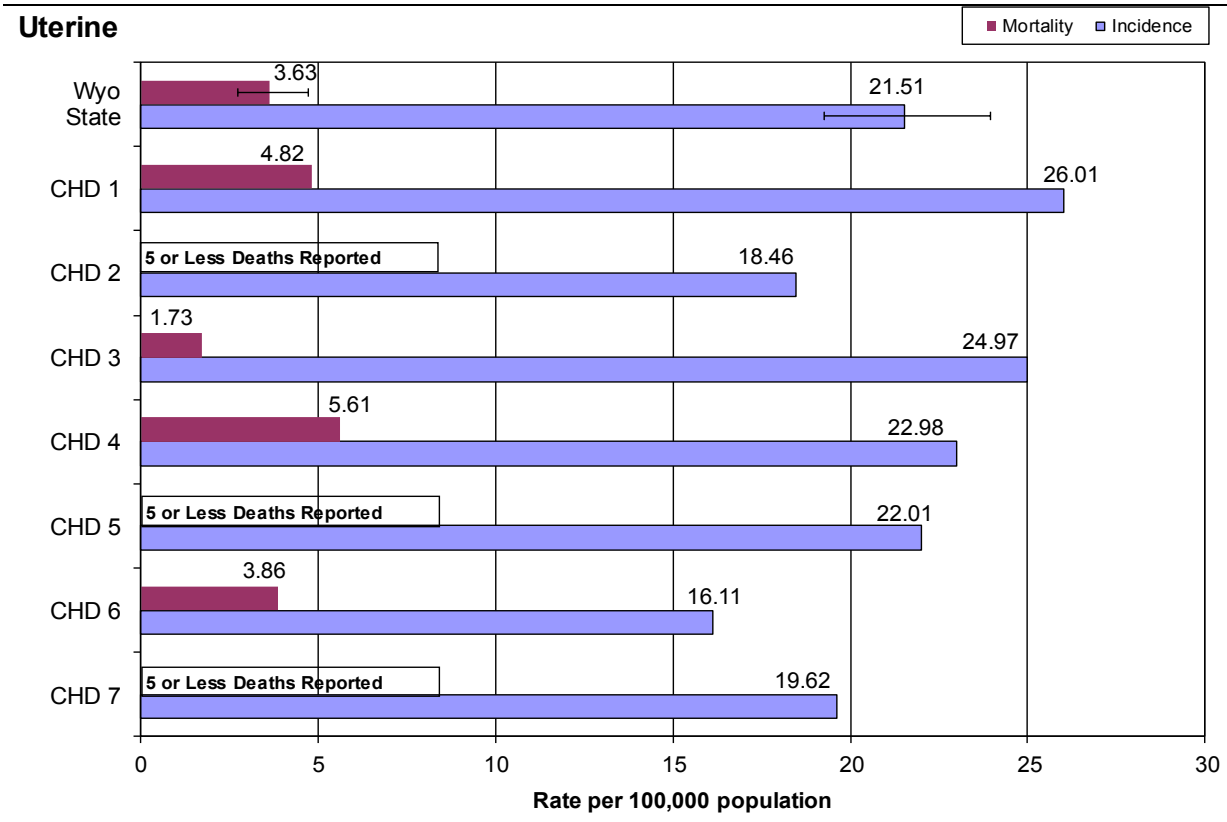
12-Year Incidence Trend



Age-Specific Incidence Rates - 2014



Cancer Health District Incidence and Mortality
5-Year Average, 2010-2014



Appendix A

References

Surveillance, Epidemiology, and End Results (SEER) Program (www.seer.cancer.gov) SEER*Stat Database: Incidence - SEER 18 Regs Research Data + Hurricane Katrina Impacted Louisiana Cases, Nov 2015 Sub (2000-2013) <Katrina/Rita Population Adjustment> Linked To County Attributes - Total U.S., 1969-2014 Counties, National Cancer Institute, DCCPS, Surveillance Research Program, Cancer Statistics Branch, released April 2016, based on the November 2015 submission.

Wyoming Department of Administration and Information, Economic Analysis Division. Wyoming State and County Population. (http://eadiv.state.wy.us/eahome.htm)

Wyoming Vital Statistics Service, Wyoming Department of Health - (http://www.health.wyo.gov/rfhd/vital_records/index.html) (*Note: These data were supplied by the Vital Statistics Services, Wyoming Department of Health, Cheyenne, Wyoming. The Wyoming Vital Statistics Services was not involved in any analyses, interpretations, or conclusions).*

Age-Adjustment

Prior to data year 1999, the Wyoming Cancer Surveillance Program (WCSP) performed age-adjustment of cancer mortality rates using the 1940 standard population and a 10-year age group, or the 1970 standard population using 5-year age groups. Starting with the data year 1999, WCSP began using the Year 2000 standard population with 5-year age groups to calculate cancer mortality and cancer incidence rates.

The decision to use 5-year age groups was made to keep WCSP data calculations comparable to the national cancer reports published through SEER and the National Cancer Institute. The 5-year age group also enables cancer prevention programs to use Wyoming reports (e.g., Vital Records) as printed versus requesting specially calculated rates.

Age-adjusted rates should be used for comparative purposes only and should not be interpreted as the absolute risk of the disease or death. As can be seen in Chart A (below) and Chart B, (following page), the change in standard population affects the magnitude of the age-adjusted rates but not the trends of the rates. In general, the age-adjusted rate is only appropriate to track trends over time or to make comparisons among groups using the same population standard.

Chart A:

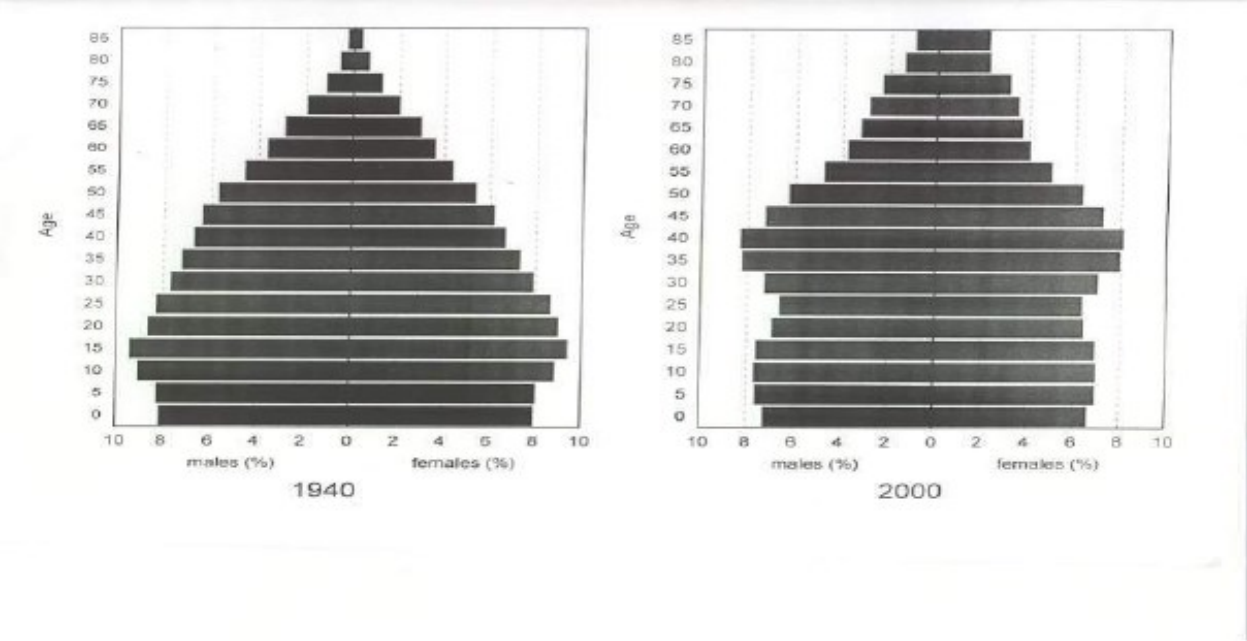
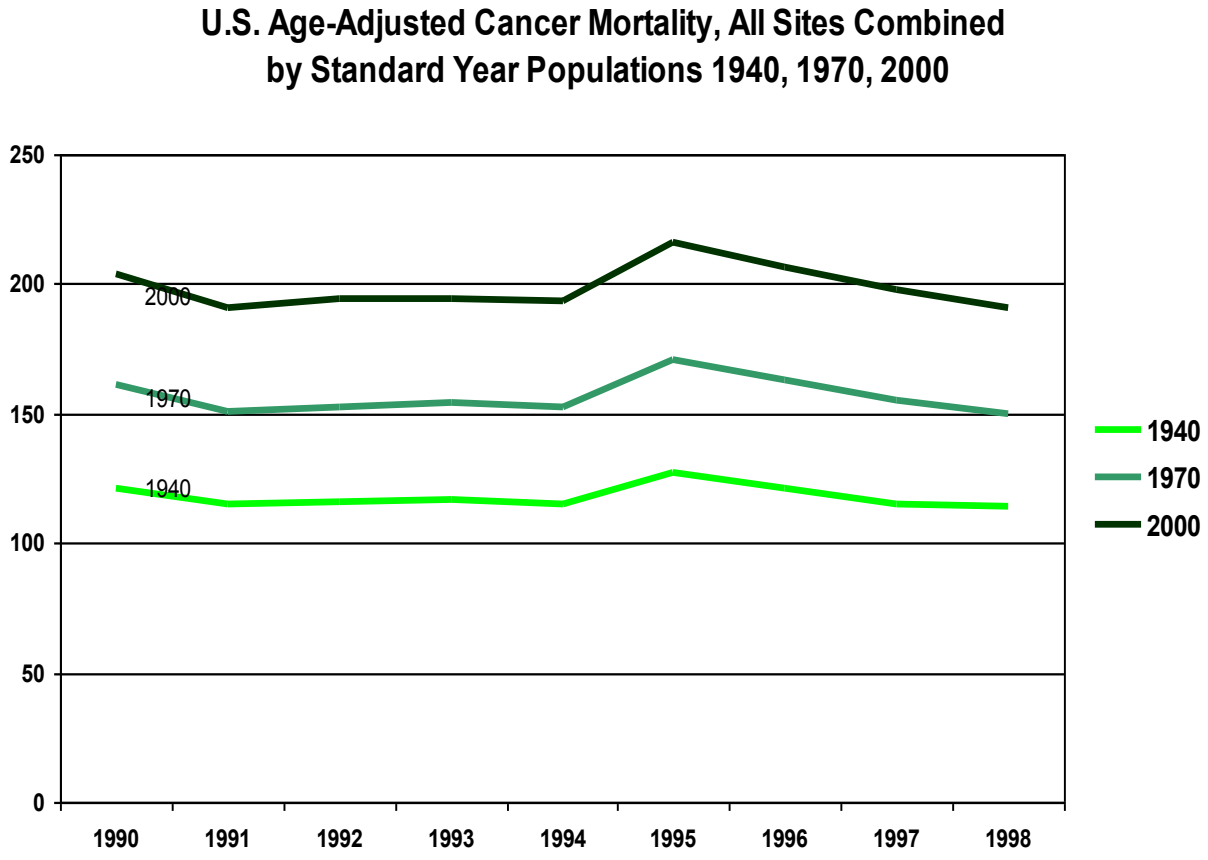


Chart B:


U.S. Age-Adjusted Cancer Mortality, All Sites Combined
by Standard Year Populations 1940, 1970, 2000
250
200
150
100
50
0
2000
1970
1940
1990
1991
1992
1993
1994
1995
1996
1997
1998
1940
1970
2000